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Steven R. Heyman

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A STUDY OF DOGMATISM, MACHIAVELLIANISM,
ANOMIA, HOSTILITY, AND AGGRESSION.

The Louisiana State University and
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A STUDY OF DOGMATISM, MACHIAVELLIANISM, ANOMIA,
HOSTILITY, AND AGGRESSION

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Psychology

by
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ABSTRACT

This study was conducted to examine relationships between dogmatism and Machiavellianism that seemed implicit from previous research, but which had not been systematically examined. It was expected in this study that a factor analytic investigation of the Dogmatism and Machiavellianism Scales would reveal a partial but significant similarity between the two scales. Both scales were expected to contribute items towards factors reflecting a disaffected view of the motivations and capabilities of others, along with feelings of hostility and suspicion. It was also expected, within the context of voluntary, democratically-oriented organizations requiring sustained interpersonal contact elected and perceived leaders would be less dogmatic and less Machiavellian than non-leaders. This study also proposed to examine differences between females and males in the expression and integration of personality variables such as dogmatism, Machiavellianism, hostility and aggression. This study also proposed to examine differences in dogmatism between individuals of different birth order.

A factor analysis of the research questionnaire, using the principal axis method and orthogonal rotations, confirmed the hypothesis that items from the Dogmatism and Machiavellianism Scale would cluster together on specific factors for males. The factorial differences between dogmatism and Machiavellianism were also demonstrated for males. The factor analysis for women was too unclear to allow adequate interpretation.

The results of the study confirmed the hypothesis that leaders within the organizations studied were significantly less dogmatic than non-leaders. The results suggested that leaders tended to be less Machiavellian than non-leaders, but this finding failed to achieve overall significance because of a sharp reversal of this trend within one group.

Informal observations suggested that the group which was functioning the most effectively had the lowest scores on the Mach and Anomia Scales compared to the other groups. The leaders of this group also had significantly lower scores on these scales when compared to the leaders of the other two groups.

Within the types of organization studies, election to office and perceived leadership functioning were highly related and appear to be equally useful.

Significant differences emerged between males and females on the Mach Scale, the Assault, Verbal, and Suspicion subscales of the BDHI, as well as the Aggression and Hostility Scales of the BDHI. Males had the higher mean scores on the different scales. Males also had significantly higher correlations between various scales and the Assault and Verbal subscales and the Aggression Scale of the BDHI. These results suggest significant differences in the reported behaviors of males and females, as well as differential integration of these behaviors into male and female behavior repertoires. The behaviors tapped by these questionnaires are apparently more compatible with male sex-role behaviors than female sex-role behaviors.

In comparisons of males by birth order, the hypothesis was

partially confirmed when youngest born children were found to be significantly less dogmatic than first born children. Contrary to the hypothesis, middle born children were found to be the most dogmatic children, non-significantly higher than first born children. In an additional finding, it was noted that oldest children were significantly more likely to join fraternities than were middle and youngest born children.

Several non-statistically significant trends were noted in comparisons of subjects by year in college.

The implications of these different findings are discussed, and suggestions for further research are made.

INTRODUCTION

The Authoritarian Personality (Adorno, et al., 1950) presented the first major attempt at a comprehensive psychological, sociological and political study of the authoritarian personality. The authors of that work conceived of authoritarianism as an integral part of one's personality, which could be moderate or extreme in its presence. They developed several scales to measure the relative presence of authoritarianism, the most famous of these scales being the "Potentiality for Fascism Scale," generally known as the F Scale.

These researchers, known as the Berkeley researchers because of their affiliation with that university, conceived of nine variables as characteristic of the authoritarian personality: conventionalism; authoritarian submission; authoritarian aggression; destruction and cynicism; power and toughness; superstition and stereotypy; anti-intraception; projectivity; and exaggerated concern with sexual "goings on." They did not view authoritarianism as merely one aspect of the personality, but as an approach to life. As authoritarianism increases, the more rigid and narrowed the individual becomes in all of his interactions. Hostility and aggression form an integral part of the authoritarian's perceptions and expressions. The researchers explained that prejudice is but one of a number of manifestations of a generalized hostility the authoritarian has to the world around him.

With respect to the F Scale, the higher one's score on that scale, the more authoritarian the individual is purported to be. Based

on interviews with individuals who had been given the F Scale, the Berkeley researchers stated that aggression manifested by high scores on the F Scale is likely to be an expression of a general and diffuse rage, with a tendency to be suppressed, but to break through in often uncontrolled ways. For the low scorer on the F Scale there is usually a more specific reason for aggression, well integrated with the subject's ego, such as the violation of a principle or the loss of love. The expression of aggression by the non-authoritarian is more likely to be specific and channeled than the authoritarian's expression of aggression.

Again based on interviews with subjects who had taken the F Scale, the Berkeley researchers reported that high scorers viewed the world as a dangerous and hostile place, and have a general suspiciousness of others. This is interpreted as being a projection of the authoritarian's inner impulses onto others, and particularly his feelings of hostility and aggression, leading him to manifest distrust and suspiciousness of others. He therefore assumes a generally hostile approach to the world around him (Adorno, et al., 1950, p. 41). Low scorers, on the other hand, were found to manifest "trustingness" and "openness."

The Berkeley researchers state that the authoritarian has strong feelings of hostility toward parental figures which can't be expressed directly, and which must therefore be kept ego-alien. These feelings are, however, "more active under the guise of the mechanism of displacement" (Adorno, et al., p. 41).

. . . the functioning of the superego is mainly directed toward

punishment and condemnation, and the exclusion of others, thus mirroring the type of discipline to which he himself was apparently exposed (p. 483).

Haythorn, et al. (1956) compared 8 groups which were composed either of all high scorers or low scorers on the F Scale. They found significantly more acts of positive affect in the low F groups ($p < .02$). High F groups were rated as having more inattentive and out-of-field activity ($p < .05$). F+ leaders (authoritarian leaders) who spontaneously emerged in groups were more likely to tell others to do something than F- leaders ($p < .05$). F- leaders were rated as being friendlier ($p < .05$), and sought the opinions of others, and made more overall positive affect acts ($p < .05$).

A number of studies have been reported in which the F Scale has been used along with situations in which hostility and aggression can be manifested. Roberts and Jessor (1958) and Wright and Harvey (1965) indicate that persons high in authoritarianism show greater hostility towards frustrators low in status than those high in status, while no such differential response is found for those low in authoritarianism. Leipetz and Ossorio (1967) report that high authoritarians manifest greater hostility toward equal status aggressors than do low authoritarians, while they manifest less hostility toward high status aggressors than do low authoritarians.

Leipetz and Ossorio (1967) also report a low but significant correlation between the F Scale and the Buss-Durkee Hostility Inventory (the BDHI), $r = +.25$, $p < .05$. The BDHI is a 75 item self-report questionnaire consisting of 7 subscales designed to tap different aspects of the construct labeled "hostility-aggression," and has an eighth scale

scored separately to measure guilt feelings. Factor analysis has indicated there are two separate clusters of scales, one labeled "hostility" and the other "aggression" (Buss and Durkee, 1957; Buss, 1961). Leipetz and Ossorio, however, report only one full scale score.

The Dogmatism Scale: General authoritarianism vs. right wing authoritarianism

In an attempt to refine and expand the concept of authoritarianism, Milton Rokeach (1956) indicated that the F Scale for the most part measured only the fascistic, right wing form of authoritarianism. He conceived of authoritarianism as a more general personality type, and developed the Dogmatism Scale as an alternative to the F Scale. While the F Scale had originally been developed to measure the fascistic, right wing form of authoritarianism, it had largely become known as a measure of "the" authoritarian personality, and Rokeach felt this leap from the specific to the general was inaccurate. The D Scale, for Rokeach, was an attempt to measure general authoritarianism, without concern for specific content of beliefs. He was more interested in the properties held in common by all forms of authoritarians. He did not dispute the theoretic formulations or personality correlates of authoritarianism attributed by the Berkeley researchers to the fascistic, but rather sought to broaden the concept of authoritarianism. To this end, he developed the D Scale.

Dogmatism - general authoritarianism - is conceptualized as "closedness" as opposed to "openness" of belief systems. Rokeach places the emphasis on the structure rather than the content of beliefs: how a person believes rather than what a person believes. A system is

defined as closed

to the extent that there is a high magnitude of rejection of all disbelief subsystems, an isolation of beliefs, a high discrepancy in degree of differentiation between belief and disbelief systems, and little differentiation within the system (Rokeach, 1960, p. 61).

An illustration of this is

Thus, Senator (Joseph R.) McCarthy was apparently unable to distinguish Communists and Socialists from Liberals at the far end of his disbelief system, but other Republican senators could, to varying degrees, make better differentiations. Another example is that many communists insist that both Democrats and Republicans are the same: they both are run by Wall Street. But some communists can see distinctions between them (Rokeach, 1960, p. 39).

In speaking of dogmatism, Rokeach is not speaking only about single issues, but also about networks of issues, for openness or closedness of belief systems and personality cuts across specific content. Rokeach assumes that all belief-disbelief systems serve two powerful yet conflicting sets of motives simultaneously: the need for a cognitive framework to know and to understand; and the need to ward off threatening aspects of reality. Open systems are more likely to come about to the extent that the need to ward off threat is absent. As this need to ward off threat becomes stronger, however, the cognitive need to know becomes weaker, resulting in a more closed belief system. The more closed the total belief-disbelief system, the more Rokeach conceives it to represent a tightly woven network of cognitive defenses against anxiety.

Indeed, we suggest that in the extreme the closed system is nothing more than the total network of psychoanalytic defense mechanism organized to form a cognitive system to shield a vulnerable mind (Rokeach, 1960, p. 70).

Individuals are seen by Rokeach as developing closed systems, to

varying degrees, in proportion to the degree to which they are made to feel alone, isolated, and helpless in the world in which they live. Such individuals are seen as being likely to develop pervasive feelings of inadequacy and self-hate. Excessive concern with the needs for power and status may come about to overcome such feelings. A generally disaffected view of life is built up in response to egotism and misanthropy, feelings of guilt, and by rationalization and projection.

Rokeach notes that Frenkel-Brunswik's main thesis establishes a close correspondence between the cognitive spheres of behavior and the social-emotional spheres. The power of authority, in Rokeach's view of the closed belief system, does not depend on cognitive correctness, but rather on the ability of authority to mete out punishment and reward.

He suggests that for subjects scoring highly on the D Scale (the more dogmatic subjects) and for middle scoring subjects, ambivalence toward parents is not permitted expression, and this leads to anxiety and a narrowing of the possibilities for identification with persons outside of the family. He reports that high and middle scoring subjects report having had a significantly greater incidence of "anxiety symptoms" in childhood (thumb-sucking; nail biting; temper tantrums; nightmares; walking and talking while asleep; and bed wetting) than do low scoring subjects. It also seems that elements of hostility as well as anxiety can be related to some of these symptoms, particularly the tantrums and bed wetting, which may indicate the displacement of anxiety or the acting out of hostile impulses.

In his book The Open and Closed Mind, Rokeach (1960) reports that in keeping a record of hostile and defensive comments made during the

time subjects took to solve the Denny Doodlebug problem he gave them, there was a significant correlation between the number of these statements made and the closed-mindedness of subjects. No such correlation existed between defensive comments and rigidity (as measured by the Gough-Sanford Rigidity Scale). Closed minded subjects generally had a more difficult time with the solution of the problem, and it would seem that the need to know gave way to the need to defend, and this defense had an overtly hostile appearance.

In a review of research done with the D Scale, Vacciano, Strauss, and Hochman (1969) report that the findings support Rokeach's concept of dogmatism as a generalized expression of authoritarianism, independent of ideological contents. Factor analytic studies have indicated the F and D Scales are factorially discriminable (Kerlinger and Rokeach, 1966).

While most studies have regarded the D Scale as being composed of a unitary, non-factorable dimension (Vacchiano, et al., 1967; Vacchiano, et al., 1968), Pedhazur (1971), in a more extensive analysis than previously performed, found five general factors emerging from the D Scale. He labels these factors as: Belief in One Truth; Isolation-Alienation: Belief in One Cause; Self-proselytization; and depending on sex, Virtuous Self-denial (males) or Narrowing and Intolerance (females). This factorial separation adds greatly to the understanding of authoritarianism. Rather than being a unitary function, it appears to be made up of related components, but components which could conceivably vary with each other. These components are also seen as being able to interact with other parts of an individual's personality or life-style

more than was previously theorized. Instead of varying in authoritarianism on essentially a unitary scale going from black to white, with everyone at some theoretical shade of grey in between, authoritarianism, because of its more separate components, can far more subtly relate to other aspects of an individual's psychological make-up.

The research on dogmatism substantially portrays the dogmatic individual as being less well adjusted psychologically than the less dogmatic individual, and more prone to pervasively accumulate and express feelings of hostility and aggression. Korn and Giddan (1964), using three different scales of the California Personality Inventory (Well Being; Tolerance; and Flexibility) found significant differences between high dogmatic and low dogmatic individuals, and concluded the more dogmatic an individual is, the less tolerant, flexible, and secure he is likely to be.

Plant, et al., (1965) compared high and low dogmatic individuals on the Allport-Vernon Lindzey Study of Values (the A-V-L), and five scales of the California Personality Inventory (the CPI): Sociability; Self-control; Achievement via independence; Intellectual Efficiency; and Responsibility. Intellectual abilities, as measured by the School and College Ability Test, were controlled for. Low dogmatic males (n=110) scored significantly higher ($p < .05$) on all of the CPI scales. A similar number of pairs of females had comparable results. No significant differences emerged between high and low dogmatic subjects on the A-V-L Study of Values. Plant, et al., characterized highly dogmatic subjects, based on the results of this study, as "impulsive, defensive, and conventional and stereotyped in thinking (p. 75)." Compared to

highly dogmatic subjects, the low dogmatic subjects are described as being "outgoing and enterprising, calm and patient, mature and forceful, efficient and clear thinking, planful and responsible (p. 73)."

Vacchiano, Strauss, and Schiffman (1968) in a study involving 82 subjects, correlated the D Scale with several scales including the Tennessee Self-Concept Scale, the 16 PF, and the Edwards Personal Preference Scale (EPPS). The D Scale had a significant positive correlation ($r=.25$, $p < .05$) with the Need for Succorance scale of the EPPS, and significant negative correlations with the Need for Change and Need for Intrasection scales of the EPPS ($r=-.25$ and $-.21$, $p < .05$). Several low but significant correlations emerge between the D Scale and subscales of the Tennessee Self-Concept Scale (correlations ranged from $-.21$ to $-.38$ and $+.26$ to $+.35$ $p < .05$) indicating high dogmatic subjects tend to have a poorer self-concept and increasing tendencies towards general personality maladjustment compared to individuals with lower dogmatism scores.

Pyron (1966) administered 13 attitudinal tests to 80 college sophomores, and included Rokeach's D Scale. The D Scale had significant positive correlations ($p < .01$) with the Rejection of People Scale ($r=.30$), the F Scale ($r=.53$), and the Taylor Manifest Anxiety Scale ($r=.33$), and significant negative correlations ($p < .01$) with the Acceptance of Change Scale ($r=-.29$) and the Reliance Upon Self scale ($r=-.31$).

There have been consistent reports of significant positive correlations between the D Scale and various measures of anxiety. Rokeach (1960), using Welch's scale, found a significant positive correlation

between dogmatism and anxiety (number of Ss range from 60-202, r 's range from +.36 to +.64, all probabilities $< .01$). Similar findings have been reported with other measures of anxiety and the D Scale (Norman, 1966; Rebhun, 1966; and Strict and Fox, 1966).

Larsen and Schendiman (1969) correlated three measures of self-esteem with each other and with the D Scale. The self-esteem measures included one of the authors' own design; the Janis-Field Self-esteem Scale; and the Barron Ego Strength Scale. The three self-esteem scales intercorrelated significantly with one another (r 's ranged from .39 to .45, $p < .001$). The D Scale had a correlation of -.24 with Larsen and Schendiman's scale ($p < .01$); an $r = -.51$ with the Janis Field Scale ($p < .001$); and a correlation of -.36 with Barron's Scale ($p < .001$).

Other correlational studies have attempted to gauge the personal adjustment of dogmatic individuals. These studies indicate negative correlations between dogmatism and personal adjustment, as measured by the 16 PF, the Mooney Problem Check List, and the MMPI, as well as a variety of other scales (Vacchiano, et al., 1969; Kirtly and Harkless, 1969).

The picture of the authoritarian that emerges from these studies suggests the more authoritarian individuals have greater difficulty in effectively coping with life than less dogmatic individuals. Similarly, the more dogmatic individuals report greater discomfort and less desirable behaviors. Heyman (1970) correlated the D Scale, the Marlowe-Crowne Social Desirability Scale (MCSDS), and the Gough-Sanford Rigidity Scale (GSRS) with one another. Since there was a significant difference between the means of males and females on the D Scale ($p < .05$),

the correlations were performed separately for the two sexes. The results of the overall analysis, shown in Table 1, indicate a strong relationship between dogmatism and "hostility-aggression" as measured by the BDHI. It also indicates a strong relationship between dogmatism and rigidity, but no significant relationship between rigidity and the BDHI.

The BDHI, however, has three separate factorial elements, described as the "Hostility" subscales, the "Aggression" subscales, and the "Guilt" subscale, and each can be scored separately. These subscales were scored separately, and intercorrelated with each other as well as with the D Scale, the BDHI, and the GSRS. The results, shown in Table 2, indicate the more dogmatic individual has stronger feelings of hostility than the non-dogmatic individual, as well as indicating the greater likelihood of the overtly assaultive expression of these feelings. Paradoxically, there are strong guilt feelings about the pervasive undesirable attitudes and behaviors. The absence of a significant positive correlation between dogmatism and aggression for females, where one exists for males, apparently reflects sex-role differences.

Other studies help to fill out the picture of the authoritarian. The greater reliance of an individual on authority figures as scores on the D Scale increase have been reported by several authors (Vacchiano, et al., 1969; Restle, et al., McCarthy and Johnson, 1962; Powell, 1962; and Vidulich and Kaiman, 1961). It is not surprising, therefore, that Clouser and Hjelle (1970) report a significant correlation between the D Scale and Rotter's Internal-External Locus of Control Scale (I-E

TABLE 1
Correlation Matrices for Test
Scores, Sexes Separate

Males (N=74)			
	<u>D</u>	<u>BDHI</u>	<u>MCSDS</u>
BDHI	.395***		
MCSDS	-.002	-.435***	
GSRS	.465***	.220	.214
Females (N=109)			
	<u>D</u>	<u>BDHI</u>	<u>MCSDS</u>
BDHI	.293**		
MCSDS	-.013	-.503***	
GSRS	.502***	.083	.283**
<hr/> ** p < .01 *** p < .001			

TABLE 2
Correlation Matrices for BDHI Subscale
Scores and Other Test Scores

Males			
	<u>Aggression</u>	<u>Hostility</u>	<u>Guilt</u>
Hostility	.609***		
Guilt	.308***	.574***	
D	.327**	.430***	.423***
MCSDS	-.470***	-.189	-.007
GSRS	.206	.208	.279*
Females			
	<u>Aggression</u>	<u>Hostility</u>	<u>Guilt</u>
Hostility	.378***		
Guilt	.227*	.431***	
D	.169	.405***	.350***
MCSDS	-.523***	-.242*	-.097
GSRS	-.049	.287**	.450***
<hr/> * $p < .05$ ** $p < .01$ *** $p < .001$ <hr/>			

Scale). This correlation indicates that as dogmatism increases, an individual is more likely to perceive external sources, rather than internal resources, as having the locus of control for one's life. In comparing the mean D Scale scores for extreme internal and extreme external subjects, a significant difference emerges ($t=2.14$, $p < .05$), with the more external individuals being more dogmatic.

In group interactions, the anxiety, uncertainty, and insecurity of the more dogmatic individual has been demonstrated. In comparing sensitivity groups, one composed of high dogmatic subjects and the other of low dogmatic subjects, Frye, et al., (1972) report that the more dogmatic group took longer to give the behavioral cues of having achieved psychological safety than did the low dogmatic group (these cues include being more positive and supportive in group interactions). The authors were not sure, however, whether the high dogmatic group ever actually achieved psychological safety, or merely conformed to the perceived expectations of the facilitator--the authority figure.

The high dogmatic group was rated as having significantly more stress behaviors by their greater manifestation of anxiety, annoyance, boredom, and rejection of the experimental situation. Specific hostile and aggressive interactions were not coded, but the atmosphere is described as being a more anxious, tense, and isolated one in the high dogmatic group, while the low dogmatic group achieved a more cheerful, interacting atmosphere.

Zagona and Zurcher (1964) established two groups of 30 subjects, one composed of all high dogmatic individuals, the other of all low dogmatic individuals. Both groups met as introductory psychology

classes for a semester. The high dogmatic class is described as having been more tense, rigid, and conforming, while greater inquisitiveness and spontaneity existed in the low dogmatic group. The authors twice picked six different members of each class randomly, and assigned them to small groups for discussion of a controversial subject. The low dogmatic subjects were able to have open, free discussions about the controversial subject, while the high dogmatic subjects had a much more difficult time. When both groups were integrated, the low dogmatic subjects had greater member participation, and a higher level of interaction. The low dogmatics virtually dominated the session. In a related study (Zagona and Zurcher, 1965) the groups were not merged, but were to report to an experimenter. When the conclusions of each group were challenged by the experimenter, and ridiculed, the low dogmatic group realistically questioned the criticisms, and logically defended the position. The group of high dogmatic subjects, while at first showing some flurry or reaction, soon lost group cohesion, passively listened to the challenge, and changed their position.

In a dyadic bargaining situation, high dogmatic subjects were found to be more resistant to change than low dogmatic subjects, and less willing to defect from a given position, since they viewed compromise as defeat (Druckman, 1967).

Foulkes and Foulkes (1965) found a negative relationship between dogmatism and "tolerance of trait inconsistency" in impression formation problems. High dogmatic subjects, when faced with discrepant information, tended to avoid compromise solutions by either changing greatly, or adhering very closely to their original impression.

Dogmatism also influences interpersonal relationships. Hodges and Byrne (1972) found individuals reported greater attraction to individuals writing or making less dogmatic statements ($p < .02$). Gormly and Clore (1969) found noteworthy trends ($p < .07$) between attitude similarity and dogmatism. High dogmatic subjects were less attracted to dissimilar strangers than were low dogmatic subjects.

In a naturalistic study, Rosenfeld and Naiman (1964) administered the D Scale to the residents of girls' dormitories. During the semester they took peer ratings and interaction reports. They conclude,

The most direct evidence pertained to the attribution by peers of less rational and less complex cognitive processes to more dogmatic individuals . . . Over a longer period of time, more dogmatic Ss become more negatively rated, or less positively rated, according to the peer's initial enjoyment of interaction . . . Furthermore, they reveal their dogmatism through their manner of behaving (more than) the content of their utterances (Rosenfeld and Naiman, 1964).

While the authoritarian appears less well adjusted than the non-authoritarian, intellectually there appears to be no significant difference between authoritarians and non-authoritarians (Rokeach, 1960). Although results have been equivocal with respect to problem solving abilities and tests of "creativity," more dogmatic individuals are often reported to have greater difficulty in problem solving situations and do more poorly on "creativity" tests than do low dogmatic subjects (Zagona and Zurcher, 1965; Vacchiano, *et al.*, 1969). This appears to be a result of the inability to overcome old sets and replace them with new ones, as a function of personal rigidity, and/or the inability to integrate new sets after old sets are overcome, as a result of dogmatism.

Developmentally, dogmatism has been related to the socioeconomic

status of parents (Anderson, 1962), and greater reported parental discipline by parents (Schwendiman, et al., 1970). Both Schwendiman et al., (1970) and Kilpatrick and Cauther (1968) found later born males to be more dogmatic than firstborns. Others have found either no such relationship, or the opposite difference (MacDonald, 1971). Many of these studies, however, have lumped middle children together with youngest children and compared them to first born children. Both Adler (Ansbacher and Ansbacher, 1956) and Schachter (1959) make different predictions about middle and younger children that would preclude their being lumped together. Rosenfeld and Naiman (1964) found a significant relationship between dogmatism and first born females.

The overall research on dogmatism substantially confirms Rokeach's theories as applied to contrasts between groups of high dogmatic and low dogmatic individuals. When the middle group on the continuum is examined, however, their scoring pattern and behaviors vary in ways inconsistent with a linear theory of dogmatism (Vacchiano, et al., 1969). Generally, the literature portrays the more dogmatic individual as being higher on a number of scales indicating generally maladaptive traits including rigidity, hostility, aggression. These studies also indicate the more dogmatic individual is more likely to have difficulty functioning in interpersonal situations.

The authoritarian and the Machiavellian: some differences, some similarities

In focusing on the Machiavellian, Christie and Geis (1970a) decided to look at those individuals who were likely to be effective in controlling others. They noted, as did Shils (1954) that the

authoritarians are generally ineffective politically and socially because of the extremity of their views and their general inflexibility. After reading the works of Machiavelli, and discussing the subject with others, they assumed the Machiavellian individual would have:

1. a relative lack of affect in interpersonal relationships. By viewing individuals more as objects than as individuals with whom one has empathy, it becomes easier to deal insincerely with others.
2. a relative lack of concern with conventional morality, and take a utilitarian rather than a moral view in interaction with others.
3. a lack of gross psychopathology, so that their contact with objective aspects of reality is unimpaired so they can take a successfully instrumental approach in interacting with others.
4. a low ideological commitment--they are more concerned with getting things done.

To derive a scale for measuring Machiavellianism, a pool of 71 items theoretically congruent with statements from Machiavelli's The Prince and The Discourses were derived. After administration to over 1,000 college students in different parts of the country, an intensive item analysis was conducted. After separating out items that discriminated between high and low scorers, and items with equivalent content but different phrasing, the essential items were derived. Ultimately, a 20 item Likert Scale, called the Mach IV was assembled, with 10 items selected in which agreement was keyed to endorsement of

Machiavellian statements, and 10 keyed in the opposite direction.

There are three content areas: nine items dealing with Machiavellian Tactics; nine with Views on Human Nature; and two on Abstract Morality.

In reviewing the relationship between the Mach scales and other tests, Christie and Geis note no significant correlations emerge with intellectual abilities. A low but significant negative correlation ($r = -.20$, $n = 1781$, $p < .05$) was found with the F Scale, while political preference in the 1964 election had no significant relationship to Machiavellianism.

In correlating the Mach IV to other scales, Wrightsman and Cook (1964) found the results shown in Table 3. In addition, a correlation of $-.27$ emerged between the Mach Scale and the K Scale of the MMPI, and a correlation of $-.40$ between the Lie Scale of the MMPI and the Mach Scale. This pattern of correlations points to strong feelings of alienation, isolation, and hostility by the Machiavellian.

Interestingly, where much of the work on authoritarianism has been geared towards an overall understanding of the personality of authoritarian individuals, and has often focused on pathological tendencies, this has not been the approach generally found in Machiavellianism research. The literature reflects more of a fond fascination for the Machiavellian by researchers. The cleverness displayed by the Machiavellian seems to have captivated researchers.

Christie and Geis generally minimize potential psychopathological implications of Machiavellianism (1970, pp. 44-45). Towards the end of their book, however, they do present factor analytic work done with the Mach Scales. In one reported study, the Mach Scales, and a

TABLE 3
Correlations of Various Scales With The
Mach IV (Wrightsman and Cook, 1964)

Scale	Mach IV
Manifest Hostility (Siegel)	+.60
Cornell Anomie	+.51
B-D Hostility Subscale	+.47
Faith in Human Nature	-.44
External Locus of Control	+.43
B-D Verbal Hostility Subscale	+.41
Anti-police Attitudes	+.41
B-D Suspicion Subscale	+.40

counter-balanced revision of Srole's Anomia Scale were administered to subjects. In the 5 factors that emerge, one shows a great deal of both scales. This factor is labeled "Anomic Disenchantment." Two other factors showed similar relationships between the 2 scales. One factor was labeled "Honesty" and the other was called the "Pollyana Syndrome." Both reflected disaffected views of society and human nature. Two other factors emerged, made up purely of items from the Mach Scales, one called "Machiavellian Tactics" and the other "Machiavellian Orientation." This again appears to reflect not a dispassionate attitude towards life, but greater feelings of alienation and isolation by the more Machiavellian individual.

In another factor analytic study, two Mach Scales were administered, along with the modified Srole Anomia Scale, and a modified, counterbalanced 20 item F Scale. One factor that emerged was made up of items from the Mach Scales and the Anomia Scale, and was labeled "Duplicity." The second factor, called "Affirmative Negativism" was made up of items from all three scales. These items were statements reflecting disaffected views of man, man's future, and society in general. The third factor, called "Distrust in People," was composed of items from all scales. The fourth factor, called "Traditional Moralism" was almost exclusively composed of items from the F Scale. It would appear the Machiavellian and the right-wing authoritarian both have a generally jaundiced view of human nature and the world around them. The Machiavellian endorses duplicity and manipulation of others, while the authoritarian endorses commitment to moral causes.

Unfortunately, few studies have attempted to follow-up on the

indications of these studies. Rather than being simply without "gross psychopathology" as Christie and Geis conceive of the Machiavellian, it may be that alienation, isolation, hostility, and aggression are as much a part of the Machiavellian as they seem to be of the authoritarian. What separates the two may be the way they express these personality components.

Touhey (1971) reported finding significant correlations between reported difficulty in self-control and Mach Scale score for men ($r=.48$, $p < .01$) and for women ($r=.59$, $p < .01$). For males there was also a significant correlation between Machiavellianism and reported aggression ($r=.41$, $p < .01$), while no significant relationship in this area emerged for women. Touhey states

high scoring (Machiavellian) males were more likely than low scoring males to report that problems with aggression and self-control have impeded upward social mobility ($X^2=8.02$, $p < .005$). The correlation for women was not significant.

Two studies reported several significant correlations in different samples between Mach Scale scores and scores on Rotter's Internal-External Locus of Control Scale. In each case, the correlation indicated a significant relationship exists between reported Machiavellianism and the feeling that the locus of control for one's life is external to oneself rather than an internal resource (Solar and Bruehl, 1971; Miller and Minton, 1969). The researchers conclude the Machiavellian control of others stems from feelings of powerlessness, dependency, and the projection of responsibility for failure.

Parenthetically, some of the incompleteness in the probing of the personality structure of the Machiavellian is understandable in a

cultural context. History and literature reflect tales of the "loveable knave" and today there is the "anti-hero." The popularity of the movie The Sting indicates the strength of the Machiavellian's popularity. It may be purely speculative, but the rigidity, lack of creativity, and conservatism attributed to the authoritarian seems likely to be reacted to negatively by the more liberal psychological researchers. The guile, clever manipulateness, and lack of what might be called superego restraints may make the Machiavellian more attractive to researchers, for the Machiavellian can act out what others may only think about doing. Psychologists, in many of their experiments, have devised clever manipulations of subjects, though in the name of research.

Larsen (1971) found significant correlations between the Mach Scale and the total score on three subscales of the BDHI, which he used as a measure of aggression ($r=.26$, $n=301$, $p<.01$).

In the first experimental study reviewed by Christie and Geis (1970a), Exline found that when experimental confederates implicated subjects in cheating, high Machs put up a greater resistance to the attempts. After being implicated, however, high Mach subjects looked the interrogator in the eye while denying they cheated more often than did low Machs, confessed less often than low Machs, and lied more plausibly than did low Machs (as rated by independent judges).

To determine if, and how, the Machiavellian would initiate the manipulation of others, Geis, et al., (1970) created a situation in which the subject was ostensibly testing another individual (in reality a stooge), and had the choice of whether or not to use tactics to confuse or distract the "subject." High Machs manipulated their

subjects more often, utilizing more lies and other distractions than low Mach subjects, and devised significantly more manipulations than did low Mach subjects. The high Machs reported enjoying the entire experiment more than lows when it was over, and reported more often than lows that they preferred functioning as the "experimenter."

The descriptions of the high Machs by raters

(These consensual descriptions again) reflect the cold, amoral, and detached personal unresponsiveness of the High Mach, and his covertly aggressive willingness and ability to manipulate others (p. 93).

In a game situation, Geis (1970) reports high Machs outbargained lows and won more points in the games. Highs were even more successful when the bargaining situation was more ambiguous. In a question relating to real-life activities, she found high Machs reported playing card and dice games significantly more than low Machs. Describing the game playing, Geis states

High Machs appeared to size up the situation and then test the limits of how much they could get away with . . . High Machs appeared to initiate and control the structure of bargaining interaction in the group. They were overwhelmingly the dominant, decisive, sought after member of the triad . . . High Machs thrive especially when ambiguity obscures the claim of the low Machs to fair play and justice (p. 154).

It is also noted that the low Machs appeared to personalize the social interaction and respond from an "emotional-ethical" orientation. The high Mach was unresponsive to personal or ethical concerns, and depersonalized the social interaction, approaching it for what is described as a "cognitive-probabilistic orientation."

They (the Lows) lost to the Highs by the greatest margin on the issue they most strongly endorsed, not those they privately opposed (p. 209).

In another game situation, played for money and for "keeps," a similar pattern emerged (Christie and Geis, 1970b). A high Mach was always in a winning coalition, and none of the high Machs ever lost.

Bogart, et al., (1970) found that while low Mach subjects cheated as often as they refused in high and low justification conditions, high Machs were significantly more likely to cheat in high justification conditions, but not in low justification conditions. Low Machs showed the dissonance effect, but high Machs did not (this was measured in terms of changed in ratings of statements about conventional morality).

High Machs have 3 ways of coping with what for low Machs is dissonance. All depend upon their detachment from others, and from their own behavior. First, they can more easily refuse a request. Second, they can comply with a request and separate the choice to comply from endorsement of the activity involved. Third, if they do get caught, they can acknowledge it and maintain their initial position anyway (p. 253).

The early researchers in Machiavellianism present evidence that the more Machiavellian are in fact willing to engage in the behaviors they endorse. The question of the development and extent of this is not fully answered. The educational level of the family, and socio-economic status do not appear related to Machiavellianism (Christie and Geis, 1970a, p. 322). Attitudes towards parents, as with authoritarians, appear related to Machiavellianism, but this is still a tenuous finding. In a group of Spanish subjects, as Machiavellianism increased so did negative comments about parents. Similarly, as Mach scores increased, so did the tendency to want to be less like parents. Unfortunately, no statistical analysis of the data is presented. On this matter, Christie (1970) notes

Machs are more likely to say unpleasant things about themselves, people in general, and persons with whom they have interacted than are low Machs. It should come as no surprise to find that high Machs present a less cheerful view of their parents than do low Machs (p. 333).

Guterman (in Christie, 1970), in interviewing adults (median age in the early 40's) found a negative relationship between an index of rapport with parents and the respondents' Mach scores. In addition, the greater the reported parental strictness, the higher was the Mach score of the respondent.

Research has continued to confirm the pattern of behavior expected of Machiavellians. High Machs are reported to respond to factual information rather than social pressure (Epstein, 1969), and to show less attitude change in low justification conditions, while they show greater attitude change than low Machs in high justification conditions (Burgoon, 1972). High Machs similarly continue to be reported more successful at devising and implementing strategies to manipulate others (McLaughlin, 1970; Miller and Minton, 1969; Weinstein, 1968).

Levin and Levin (1973) found that as compared with a group of subjects scoring below a group median on the Mach Scale, a group scoring above the median preferred a social, interpersonal comparison of grades rather than a self-comparison. High Machs are described as being "more concerned with the performance of their contemporaries and less concerned with improving upon past performance." Competing and winning, as intense drives, can be seen as expressions of hostility and aggression.

In terms of expressing themselves politically, Christie and Geis (1970a, p. 353) found no political differences between high and low

Machs. Nor did they find any significant Machiavellian trends in the demonstrators at Columbia University in the late 1960's. They speculate

(in movements or revolutions) Once . . . (it) has picked up enough steam . . . high Machs might be attracted to either side to impose structure or take advantage of its absence to achieve other goals . . . regardless of the ideology being supported in the process (1970, pp. 352-353).

Cole (1972) found high Machs were less willing to espouse change without knowing what the change would be. High Machs, however, admit to having been in political demonstrations, and among all who had been in political demonstrations, cited more frequent participation. In matters of political opinion, high Machs were apt to either "strongly agree" or "strongly disagree" regardless of issue or direction. His comments contradict some of the speculations of Christie and Geis:

He (the high Mach) has stronger convictions, and is more apt to act on them, but not when he doesn't know where such action may lead.

Like the authoritarian, the Machiavellian appear to be alienated, isolated individuals, with more extreme convictions. They can both recognize and express these. Rather than necessarily committing themselves to these opinions and goals, however, the Machiavellian can detach themselves from their attitudes and beliefs, and be more maneuverable. It is possible that between the time of the Columbia demonstrations and Cole's study, participation in left-wing causes was factually seen as more tenable, and allowed for both greater prestige and maneuvering for acceptance, prestige, and even belongingness for the alienated Machiavellian.

Summary of previous research, statement of question areas, and derivation of hypotheses

An overview of the research portrays considerable similarities between the authoritarian and the Machiavellian. There are similar correlational patterns on such tests as the Rotter Internal-External Locus of Control Scale (Clouser and Hjelle, 1970; Solar and Bruehl, 1971; Miller and Minton, 1969). It is also noted that significant positive correlations have been found to exist between the Dogmatism Scale and subscales of the Buss-Durkee Hostility Inventory (Heyman, 1970) and between the Mach Scale and subscale of the BDHI (Wrightsman and Cook, 1964; Larsen, 1971). While there may be differences between the Machiavellian and the authoritarian, there may be considerable similarities between these personality types that account for the similar correlational patterns.

Within experimental groups, the authoritarian has been shown to manifest greater open hostility (Haythorn, 1956) particularly to equal or lower-status individuals (Vacchiano, et al., 1968). The Machiavellian has been shown to be more manipulative of others, in experimental situations allowing possible manipulation of others (Christie and Geis, 1970; Bogart, et al., 1970). Both the authoritarian and the Machiavellian appear to have difficulty with sustained interpersonal relationships (Haythorn, et al., 1956; Frye, et al., 1972; Zagana and Zurcher, 1964; Touhey, 1971). No research has been located, however, which examines the success and failure of high Machs or high authoritarians in on-going groups. Similarly, no research has been located which looks at the positions of leadership Machs and non-Machs and authoritarians and non-authoritarians have.

The purpose of this study, then, is to examine the functioning of the authoritarian and the Machiavellian. More specifically, this study will look at individuals who are elected to, or perceived as leaders, within organizations in which members voluntarily join, are democratically-oriented, and the individuals have sustained interpersonal contact with one another. Leaders and non-leaders will be compared to determine if Machs and non-Machs and authoritarians and non-authoritarians are differentially likely to be leaders. At the same time, the questionnaires used to measure authoritarianism and Machiavellianism will be compared to determine if factorial and correlational similarities exist.

Finally, several incidental questions will be examined. These questions relate to differences between females and males in the expression and use of hostility and aggression. Previous research (Heyman, 1970) indicates these exist, and this research will attempt to corroborate this.

Birth order and dogmatism have been reported to have conflicting relationships to each other (MacDonald, 1971; Schwendiman, et al., 1970; Kilpatrick and Cauther, 1968; Wisdom and Walsh, 1975). From Adlerian theory, first born children would be expected to be the most dogmatic, with youngest children being the least dogmatic (Schachter, 1959; Ansbacher and Ansbacher, 1956).

While a general decline in dogmatism has been reported to occur throughout the college years (Vacchiano, et al., 1967), no studies have been reported which look at Machiavellianism or hostility or aggression during the college years. It would appear likely that the same forces

of education, maturation, or attitude change or conformity would act on these other dimensions as well.

Hypothesis 1: Similarities between dogmatism and Michiavellianism

Christie and Geis (1970a) conceive of the Machiavellian as being fundamentally different from the authoritarian. Studies reported in the literature, however, suggest there are developmental similarities in the parental environment of the authoritarian and the Machiavellian (Anderson, 1962; Schwendiman, et al., 1970; Guterman, 1970; Christie and Geis, 1970a) with both personality types reporting conflicts with parents and more severe parental strictness than other individuals. There are also a number of studies that report intercorrelations between various scales and either the Machiavellianism Scale or the Dogmatism Scale, and often these correlations have similar patterns (Clousse and Hjelle, 1970; Miller and Minton, 1969; Solar and Bruehl, 1971; Wrightsman and Cook, 1964; Heyman, 1970).

It is hypothesized that a notable similarity between the Machiavellianism Scale and the Dogmatism Scale will emerge when these scales are factor analyzed together. It is expected that items will be contributed by both the Mach Scale and the Dogmatism Scale towards common factors reflecting cynicism about the motivations and capabilities of others, as well as feelings of alienation, isolation, resentment, and suspicion.

An item analysis of the Dogmatism Scale and the Machiavellianism Scale was performed to surface those items which would be most likely to cluster together (Appendix I, Table A). Similar items were examined on the BDHI (Appendix I, Table B). A number of these items appear to

tap similar attitudes, and it is expected these will account for the factorial similarity between the Dogmatism and Machiavellianism Scales.

It is also expected that factorial differences will emerge between the Dogmatism and Machiavellianism Scale. The Dogmatism Scale is expected to yield items to factors reflecting a narrowing of interests and perfectionistic striving that will not include Machiavellian items. The Machiavellianism Scale is expected to yield items to factors reflecting an amoral duplicity that will not include items from the Dogmatism Scale.

Hypothesis 2: Personality variables and leadership

Leadership in an ongoing organization in which membership is voluntary and participation is democratically-oriented, and where sustained interpersonal contact is required, is likely to require emotionally positive interpersonal interactions. This would be expected for perceived leaders and particularly for elected leaders. It is hypothesized, therefore, within the type of organization described above, as for example college fraternities, leaders will be less authoritarian and less Machiavellian than non-leaders. It is also hypothesized that leaders will be less hostile and less aggressive than non-leaders.

Hypothesis 3: Comparison of subjects by sex

Previous research (Heyman, 1970) has indicated significant difference exist between the scores of males and females on the Dogmatism Scale and the subscales of the Buss-Durkee Hostility Inventory. It is expected in this research project, therefore, that females will be

significantly lower in scores on the Dogmatism Scale, and the Assault and Verbal subscales of the BDHI. It is also hypothesized that men will have significantly higher correlations between the Dogmatism Scale and the Aggression subscales of the BDHI, and between the Aggression and Hostility subscales of the BDHI, than will women. This is expected both on the basis of previous research, and the assumption that the behaviors tapped by these scales are more compatible with male sex-role behaviors.

Hypothesis 4: Comparison of subjects by birth order

Based on Adlerian theory (Ansbacher and Ansbacher, 1956; Wisdom and Walsh, 1975), it is hypothesized that first born subjects will be the most dogmatic, and that last borns will be the least dogmatic, with middle born children falling in the middle range of scores.

Hypothesis 5: Comparison of subjects by year in school

There has been a reported decline in scores on the Dogmatism Scale between the freshman and later years in college (Vacchiano, et al., 1969). It is expected that in this research study there will be a progressive decline in scores on the Dogmatism Scale, the Machiavellianism Scale, the Anomia Scale, and the BDHI between the freshman and senior year in college.

METHOD

Subjects

Subjects were drawn from two groups of students at the University of Florida in Gainesville. Eighty-one females and 91 males from introductory psychology classes volunteered to take part in this research project. All students in introductory psychology at the University of Florida are required to participate in four hours of research, and receive no extra credit for this participation. All subjects in this sample were between 16 and 25 years of age, with the exception of one male who was 38. The mean age for females was 19.5 and the mean age for males was 19.8. The questionnaires of four females and five males were deleted from the sample due to incomplete pages or omitted identifying information (sex, year in school, birth order). The number of subjects remaining in this group was 77 females and 88 males.

This sample is referred to as the "general sample." Within the female group, there were 19 freshmen, 32 sophomores, 19 juniors, six seniors, and one graduate student. Within the male group, there were 26 freshmen, 19 sophomores, 21 juniors, 10 seniors, and 2 graduate students.

Twenty-six of the males in this sample indicated they were members of social fraternities, while 30 of the females indicated they were members of sororities.

Group samples: After speaking to the Interfraternity and Panhellenic Society, all fraternities and sororities at the University of Florida were contacted and asked to take part in this study. Three fraternities, all with houses on campus agreed. Fifty questionnaires were distributed in each group. Fraternity 1, with a mean age of 19.7, returned 17 completed questionnaires, with 1 freshman, 5 sophomores, 7 juniors, 3 seniors, and 1 graduate student. Fraternity 2 returned 18 questionnaires, one of which was deleted from the sample because of an incomplete page. The group's mean age was 20.1, and there were 4 freshmen, 2 sophomores, 7 juniors, and 4 seniors. Fraternity 3 returned 38 questionnaires, four of these being discarded because of incomplete pages or identifying information. The mean age of the group was 20.0. There were 4 freshman, 11 sophomores, 8 juniors, and 11 seniors in this group.

Instruments

In order to assess the various personality constructs under consideration, several instruments were chosen. Rokeach's Dogmatism Scale (Rokeach, 1960) appeared to be the best measure of general authoritarianism. The Dogmatism Scale contains 40 items which can be answered on a two-point (true-false) scale (Rokeach, 1960; Kerlinger and Rokeach, 1966; Vacchiano, et al., 1969).

The Mach IV Scale (Christie and Geis, 1970), containing 20 items, is also answerable on a true-false basis, and was selected as a measure of Machiavellianism.

The Srole Anomia Scale, revised (Christie and Geis, 1970a) has 10 items answerable on a true-false basis, and was selected to provide

information about feelings of alienation, isolation, and anomie.

To obtain information about hostile feelings and aggressive actions, as well as feelings of resentment and suspicion, it was decided to utilize the Buss-Durkee Hostility Inventory. The total BDHI contains 75 items, but to keep the research questionnaire within manageable length, only the more powerful of the subscales were to be used. The two subscales with strongest loadings on the "Hostility" factor of the BDHI are the Suspicion and Resentment subscales. The loading of the Suspicion subscale for females is .54 and for males is .66. The loadings of the Resentment subscale is .57 for females and .59 for males. There are 10 items on the Suspicion subscale, and 8 on the Resentment subscale.

The two subscales with high factor loadings on the "Aggression" factor of the BDHI are the Assault and Verbal Hostility subscales. The loadings of the Assault subscale were .61 for females and .54 for males. The loadings of the Verbal Hostility subscale for females was .49 and for males .63 (Buss, 1961; Buss and Durkee, 1957). There are 10 items on the Assault subscale and 13 items on the Verbal Hostility subscale. All of the items on the BDHI are answerable on the true-false dimension. The four subscales contain 41 items.

The total number of items used on the research scale was 111. These items were randomly mixed to yield a questionnaire which was labeled the "Personal Opinion Questionnaire." A cover sheet which provided subjects with places to indicate name, sex, year in school, major, age, and birth order, as well as directions for answering the 111 items was attached. The directions were similar to those used by

Rokeach for the Dogmatism Scale. The second through fifth pages of the booklet contained the 111 research questions. The sixth page contained an "Activity Participation" questionnaire, designed for this study. It asks subjects to indicate any of several activities they may have participated in during high school or college, to place a check mark along a continuum to indicate the degree of participation, which could range in description from "inactive" to "greatly active." Finally, they are asked to list any offices they may have held in these activities. The bottom of this page contained an adjective checklist, labeled "self description" and contained 75 adjectives drawn from a creativity subscale of the Adjective Check List, and containing a variety of positive and negative terms (Smith and Schaefer, 1969).

A copy of the research questionnaire can be found in Appendix II.

In addition to the questionnaire described above, the booklets distributed in fraternities contained a seventh, and final, page. This was the "Group Participation" form, a revision of the "Group Participation Scale" (Pepinsky, Siegel, and Van Atta, 1952). It asks members of an organization to nominate others for a variety of behaviors individuals may take in a group. In the revision, adopted at the suggestion of various fraternity leaders, there are two sections, one containing behaviors called "propelling" and another containing behaviors called "restraining." A copy of this form can be found in Appendix III.

Scoring: A scoring key for the 111 items of the research scale

can be found in Appendix IV. Each keyed item on the D Scale, the Mach Scale, and the Anomia Scale scored one point towards a total score on that scale. Each keyed item from the subscales of the BDHI scored one point towards an individual subscale score, as well as a total score for either the "Hostility" or "Aggression" factor.

Although a wealth of information was generated by the "Activity Participation Questionnaire," only fraternity/sorority membership was utilized from the general sample. This item yielded classification of members and non-members of these organizations, as well as officer and non-officer status. Officers fell into two categories: "high" officers, being presidents, vice-presidents, secretaries, pledgemasters, and treasurers; and "low" officers, being committee chairmen, house managers, and historians.

For the fraternity sample, leaders were selected from those nominated to the "propelling" categories of the revised Group Participation Scale. Due to the limited number of participants responding and being nominated, nomination to any of these categories was considered to be an indication of leadership. It should be noted many individuals who were nominated did not return questionnaires.

Procedures

General sample: In conforming to the procedures of the Psychology Department at the University of Florida, a notice was posted on the experimental subject recruitment bulletin board, announcing a questionnaire research project on personal opinions and attitudes, which would take between 30 and 60 minutes. Subjects were given the days, times,

and rooms for this study. There were between two and four sessions a week throughout the spring quarter, from approximately mid-March through late May, 1975. The size of the groups ranged from 3 to 17, with the average being about 6-8 individuals.

When subjects arrived, they were read the instructions, and advised the study was anonymous, so that their names were not needed. They were also asked to sign an informed consent form.

Fraternity sample: In speaking to the Interfraternity and Pan-hellenic organizations, the project was described as an investigation of personal opinions and attitudes for a doctoral dissertation, and one dimension would be how these variables might affect group participation. Following this meeting, a letter was sent to all fraternity and sorority presidents, explaining the study, asking for their participation, and indicating my willingness to meet with them. Both a phone number where I could be reached, and post-cards asking about their interest were enclosed. Only one of the off-campus fraternities responded, and they indicated they were not interested in participating. One on-campus fraternity indicated they were "definitely interested" and this group became Fraternity 1. Five other fraternities responded indicating they were interested, but wanted more information. After meeting with the executives of these organizations, all but one agreed to participate. Due to the ending of the semester, however, testing was completed on only two of these groups, referred to as Fraternity 2 and Fraternity 3.

I was invited, by the executives with whom I spoke, to meetings

of the different organizations. Fraternity 3, in addition, invited me to have dinner with them prior to their meeting. At the meetings, I was introduced and the nature of the study was explained as it had been explained at the Interfraternity Council meeting. They were read the instructions, and given the questionnaire booklet, which included the revised Group Participation Form. Envelopes were supplied with each questionnaire, so that the completed questionnaire could be sealed inside. A large box, sealed on all sides and with only a narrow opening was also provided, where the completed questionnaires could be placed. I returned to each fraternity exactly a week after I had left the questionnaires, and picked up the completed forms.

The procedure was alike for Fraternity 1 and Fraternity 2. At the meeting with Fraternity 3, after the questionnaire was explained, one member asked to speak, and indicated he opposed the completion of the Group Participation Form, even though only "propelling" ratings need be completed. His objection was that all members "did the best they could," and any nominations would discriminate against some. Several other members objected, and convinced a majority of the members of their position. Fraternity 3, therefore, completed only the questionnaire booklet.

No sorority agreed to participate in the study. I was advised at the Panhellenic Council meeting that several sororities had taken part in previous research, and were left with hard feelings. Three sororities responded to my letter, one indicating it was against their rules to participate in research, one rejecting any participation, and one indicating members might individually participate, but as a group

they couldn't. No sororities, therefore, were included in the study.

Description of the fraternities: While no formal campus opinions about the different participating fraternities was collected, there were general campus stereotypes of each group. In addition, there were some noticeable behavioral differences during my brief interaction with the groups.

Fraternity 1: Of the three groups, they had the oldest house on campus. The active membership ranged between 50-60, with about half that number living in the house. While once one of the more glamorous fraternities on campus, the general image was one of being on the decline.

The president of the group at the time of testing had been president for two years. Before I began to explain the questionnaires to the members, and ask for their participation, the president, in introducing me, stated ". . . and I want you to fill out the questionnaires he has." My impression was they complied with his request without any real consideration of the research project.

Fraternity 2: One of the traditional Southern fraternities on campus, it is generally known as a "partying," rabble-rousing group. The active membership is about 50-60, but only 20 or so were at the meeting I attended. Although the executives seemed interested and invited me to carry out the research, when I scored the questionnaires I discovered none of the executives I met had participated in the study.

Fraternity 3: Another of the traditional Southern fraternities on campus, they are known for their respect of refinement and tradition, and are generally described as "gentlemen." About 50 of the 80 active

members were at the dinner and meeting I attended. During the discussion about the Group Participation Form, the members interacted openly and freely with one another.

RESULTS

Hypothesis 1: Factorial similarities between the Dogmatism Scale and the Machiavellianism Scale

Utilizing the BMD computer program at the Computer Center, University of Florida, Gainesville, Florida, a principal axis factor analysis was performed on the questionnaires for males and females. With unity inserted into the diagonals, 39 factors emerged for the males, and 41 for the females. A "scree test" (Guertin and Bailey, 1970) was performed, and it was decided to rotate 14 factors for both males and females. Orthogonal rotations according to the Varimax criteria, and oblique rotations according to the Oblimin criteria were performed as part of the BMD program.

For the male sample, the orthogonal rotations were selected as providing the best factorial solution. The factors, the items, and their loadings can be found in Table 4 which begins on the following page.¹ The first, ninth, eleventh, and thirteenth factors show overlapping items from the Dogmatism and Machiavellianism Scales. The items reflect a disaffected and demeaning view of the motivations and capabilities of others, as well as a generalized hostility and suspiciousness. The second and fourteenth factors are composed essentially of items

¹Copies of the original and transformation matrices for all items, and other computer material may be obtained by writing to S. Heyman, Department of Psychology, Southwestern Oklahoma State University, Weatherford, Okla. 73096.

TABLE 4
Questionnaire Items with Loadings of .30 or Higher on 14
Orthogonally Rotated Factors for Males

POS Number	Original Scale	Loading	Wording of Item
<u>Factor 1: Resentful suspicion</u>			
31	Res.	.64	Although I don't show it, I am sometimes eaten up with jealousy.
64	Ver.	.56	When I get mad, I say nasty things.
55	Res.	.47	At times I get a raw deal out of life.
106	Mac.	.45	It is hard to get ahead without cutting corners here or there.
92	Sus.	.41	I know that people tend to talk about me behind my back.
54	Ass.	.40	Once in a while I cannot control my urge to harm others.
19	Ano.	.38	You sometimes can't help wondering if anything is worthwhile anymore.
36	Res.	.38	Other people always seem to get the breaks.
39	Sus.	.38	I sometimes have the feeling that others are laughing at me.
109	Ver.	.37	I often make threats I don't mean to carry out.
14	Res.	.35	Almost every week I see someone I dislike.
51	Mac.	.35	The best way to handle people is to tell them what they want to hear.
73	Dog.	.32	My blood boils whenever a person stubbornly refuses to admit he's wrong.
88	Sus.	.30	There are a number of people who seem to be jealous of me.
<u>Factor 2: Authoritarian striving and disappointment</u>			
81	Dog.	.58	A man who does not believe in some great cause has not really lived.
110	Dog.	.54	The main thing in life is to do something important.
98	Dog.	.52	In this complicated world of ours, the only way we can know what is going on is to rely on leaders or experts who can be trusted.
69	Dog.	.43	It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
103	Ver.	.41	When I disapprove of my friend's behavior, I let them know it.

42	Dog.	.39	I'd like it if I could find someone who would tell me how to solve my personal problems.
2	Ano.	.36	Most people in government are not really interested in the problems of the average man.
70	Dog.	.32	Man on his own is a helpless and miserable creature.

Factor 3: Aggressiveness

13	Ass.	-.66	I seldom strike back, even if someone hits me first.
50	Res.	-.56	I don't know any people I downright hate.
10	Ass.	.51	When I lose my temper I am capable of hitting someone.
47	Ver.	-.50	I generally cover up my poor opinion of others.
79	Ass.	.50	If somebody hits me first I let him have it.
83	Ass.	.50	Whoever insults me or my family is asking for trouble.
29	Ass.	-.48	I can think of no good reason for ever hitting anyone.
22	Ass.	.47	I get into fights as often as the next person.
14	Res.	.44	Almost every week I see someone I dislike.
96	Sus.	-.43	I have no enemies who wish to harm me.
107	Ass.	.42	I have known people who have pushed me so far we came to blows.
64	Ver.	.38	When I get mad, I say nasty things.
68	Ver.	.38	If somebody annoys me, I am apt to tell him what I think of him.
48	Ass.	.37	If I have to resort to physical violence to defend my rights I will.
54	Ass.	.30	Once in a while I cannot control my urge to harm others.

Factor 4: Denial of negative attitudes, assertion of positive ones

26	Ver.	-.48	I could not put someone in his place even if he needed it.
28	Mac.	-.46	Generally speaking, men won't work hard unless they're forced to.
41	Ano.	-.41	Even today, the way you make money is more important than how much you make.
1	Dog.	-.41	In the history of mankind, there have been just a handful of really great thinkers.
46	Dog.	-.36	Most people just don't know what's good for them.
14	Res.	-.34	Almost every week I see someone I dislike.

7	Dog.	-.33	There a number of persons I have come to hate because of what they stand for.
60	Mac.	-.32	Never tell anyone the real reason you did something, unless it is useful to do so.
40	Ver.	-.31	Even when my anger is aroused, I don't use strong language.
3	Mac.	.30	When you ask someone to do something for you, it is best to give the real reasons for wanting it, rather than giving the reasons which might carry more weight.
15	Dog.	.30	It is better to be a dead hero than a live coward.

Factor 5: Reliance on self and others.

6	Ano.	.45	Most people can still be depended on to come through in a pinch.
80	Dog.	-.44	The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
18	Ver.	.44	When arguing I tend to raise my voice.
74	Mac.	.44	Most men forget more easily the death of their father than the loss of their property.
40	Ver.	-.39	Even when my anger is aroused I don't use strong language.

Factor 6: Disaffected views of others

90	Mac.	-.61	There is no excuse for lying to someone else.
105	Mac.	-.58	Honesty is the best policy in all cases.
78	Dog.	-.52	There are two kinds of people in the world, those who are for truth and those who are against it.
100	Dog.	-.47	A person who thinks primarily of his own happiness is beneath contempt.
17	Mac.	-.45	Barnum was very wrong when he said there's a sucker born every minute.
91	Dog.	-.43	In times like these, a person must be pretty selfish if he considers primarily his own happiness.
97	Res.	-.35	I don't seem to get what's coming to me.
35	Mac.	-.31	All in all, it is better to be humble and honest than important and dishonest.

Factor 7: Positive self-assertion

45	Mac.	.55	People suffering from incurable diseases should have the choice of being put painlessly to death.
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48	Ass.	.47	If I have to resort to physical violence to defend my rights, I will.
8	Ver.	.46	I demand that people respect my rights.
53	Dog.	-.42	Of all the different philosophies which exist in the world, there is probably only one that is correct.
111	Dog.	-.38	When it comes to differences in religion, we must be careful not to compromise with those who believe differently from the way we do.
23	Dog.	-.33	A group which tolerates too much difference of opinion among its members cannot exist for long.
30	Sus.	-.33	I tend to be on my guard with people who are somewhat more friendly than I expected.
70	Dog.	-.32	Man on his own is a helpless and miserable creature.
54	Ass.	-.31	Once in a while I cannot control my urge to harm others.
63	Mac.	.31	Most people are basically good and kind.
69	Dog.	-.30	It is only when a person devotes himself to an idea or cause that life becomes meaningful.
89	Dog.	-.30	In a heated discussion, I generally become so absorbed in what I am going to say, that I forget to listen to what others are saying.

Factor 8: Verbal argumentativeness

24	Ver.	.67	I can't help getting into arguments when people disagree with me.
4	Ver.	-.59	I would rather concede a point than get into an argument about it.
68	Ver.	.40	If somebody annoys me, I am apt to tell him what I think of him.
43	Mac.	-.34	It is wise to flatter important people.
11	Sus.	-.31	I seldom feel people are trying to anger or insult me.
92	Sus.	.30	I know that people tend to talk about me behind my back.

Factor 9: Dislike and distrust of others

59	Dog.	.65	Most of the ideas that get printed nowadays aren't worth the paper they're printed on.
57	Mac.	.56	Anyone who completely trusts anyone else is asking for trouble.
76	Dog.	.51	The worst crime a person could commit is to publicly attack the people who believe in the same thing he does.
49	Ano.	.46	Next to health, wealth is the most important thing in life.

97	Res.	.43	I don't seem to get what's coming to me.
30	Sus.	.43	I tend to be on my guard with people who are somewhat more friendly than I expected.
60	Mac.	.42	Never tell anyone the real reason you did something unless it is useful to do so.
20	Ass.	.41	People who continually pester you are asking for a punch in the nose.
34	Res.	.40	If I let people see the way I feel, I'd be considered a hard person to get along with.
46	Dog.	.38	Most people don't know what's good for them.
65	Sus.	.34	My motto is "never trust strangers."

Factor 10: Self-proslytization

38	Dog.	.57	If given the chance, I would do something of great benefit to the world.
62	Dog.	.38	There is so much to be done, and so little time to do it in.
63	Dog.	.33	While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, Beethoven, or Shakespeare.
12	Dog.	-.31	In times like these, it is often necessary to be more on guard against ideas put out by people in one's own camp than by those in opposing camps.
25	Mac.	.31	Most people who get ahead lead clean, moral lives.

Factor 11: Authoritarian narrowness

82	Dog.	.45	It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes.
44	Dog.	.36	In a discussion, I often find it necessary to repeat myself several times to make sure I am being heard.
9	Dog.	.31	To compromise with our political opponents is dangerous because it usually leads to betrayal of our own side.
75	Mac.	-.31	It is possible to be good in all respects.

Factor 12: Contentment with present

102	Dog.	-.59	The present is all too full of unhappiness. It is only the future that counts.
99	Ano.	.52	The average man is probably better off today than he ever was.

104	Res.	-.44	When I look back on what's happened to me, I can't help feeling mildly resentful.
70	Dog.	-.35	Man on his own is a helpless and miserable creature.
73	Dog.	-.30	My blood boils whenever a person stubbornly refuses to admit he's wrong.

Factor 13: Demeaning of others

66	Dog.	.70	Most people just don't give a damn for others.
67	Ano.	-.67	Most people will go out of their way to help someone else.
25	Mac.	-.40	Most people who get ahead in the world lead clean, moral lives.
32	Mac.	.40	It is safest to assume that all people have a vicious streak, and it will come out when given a chance.
36	Res.	.39	Other people always seem to get the breaks.
41	Ano.	-.38	Even today, the way you make money is more important than how much you make.
52	Mac.	-.38	Most men are brave.
37	Mac.	.33	The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
101	Sus.	.33	I commonly wonder what hidden reason another person may have for doing something nice for me.

Factor 14: Constriction of beliefs and associates

16	Dog.	.47	In the long run, the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
93	Dog.	.42	It is only natural for a person to be rather fearful of the future.
53	Dog.	-.37	Of all the different philosophies in the world, there is probably only one which is correct.
1	Dog.	.36	In the history of mankind, there have probably been just a handful of really great thinkers.
80	Dog.	.32	The highest form of government is a democracy, and the highest form of democracy is a government run by those who are the most intelligent.
34	Res.	.30	If I let people see the way I feel, I'd be considered a hard person to get along with.

from the Dogmatism Scale, as is Factor 10, which also has a non-Mach item from the Mach Scale. These factors reflect the narrowness, perfectionistic strivings, and feelings of disappointment of the authoritarian. Factor 3 is composed almost entirely of items from the Assault and Verbal subscales of the BDHI, with a few items from the Resentment and Suspicion subscales. Factor 7 reflects an even-tempered sort of positive self-assertion, and a positive view of others. Factor 12 reflects a positive view of man's current situation. Factor 5 generally reflects a reliance on self and others. Factor 8 contained items from the Machiavellianism Scale, and items from the D Scale rejecting authoritarian positions. This factor reflects an acceptance of duplicity and a rejection of moralistic and perfectionistic strivings.

Both the orthogonal and oblique solutions for the females yielded similar factors, and were generally similar to the factors found for males. Both rotations, however, contained factors with items that were paradoxical in their presence. That is, they contradicted other items, or were out of place on the factor. Due to the comparatively small sample size (77) for such a large number of items (111) the considerable possibility of error variance cannot be ruled out for these findings. It is, of course, also possible that such paradoxical factors will be found for these scales for females, since the scales may tap more male-oriented behaviors and attitudes that are less clearly and consistently integrated into female personality structure. Due to the inconclusive nature of these findings for females, the factor analysis was discontinued. Table C in Appendix V contains the orthogonal

rotations for the 14 factors for females, while Table D contains the oblique rotations² for those items with factor loadings of .30 and higher. Notations are made to indicate those items viewed as paradoxical in their loading.

Hypothesis 2: Comparison of leaders and non-leaders

Fraternity subjects: Two criteria were available for use in determining leadership. The first was the peer ratings completed by Fraternity 1 and 2. For these two fraternities, as well as for the members of Fraternity 3 and the fraternity members found in the general sample, office holding, as listed on the Activity Participation form could also be used as a criteria of leadership. Further, office holding could be sub-divided into "high leadership" encompassing the elected offices such as president, vice-president, pledgemaster, treasurer and secretary, and "low leadership" which would include the appointed officers such as committee chairmen, historians, and house managers.

To determine if these two criteria were independent of each other, 2 x 2 tables were set up separately for Fraternity 1 and Fraternity 2. The tables examined the relationship between nomination and non-nomination and office-holding and non-office holding. There was, however, another variable which needed to be examined: in no organization did a freshmen report holding an office, and no freshmen were nominated as propelling forces in Fraternity 1 or Fraternity 2.

²Copies of the original and transformation matrices for all items, and other computer material may be obtained by writing to S. Heyman, Department of Psychology, Southwestern Oklahoma State University, Weatherford, Okla. 73096.

The inclusion of freshmen, therefore, would bias the distribution. Separate tables were computed, therefore, which both included and excluded freshmen.

Since the number of members were so small in Fraternity 1 and Fraternity 2, Fisher's Exact Probabilities were used, 2 tailed, to determine the significance of the distributions (Hays, 1963; Roscoe, 1969). For these, and all succeeding calculations of F.E.P., the value shown in the parenthesis in the table is the exact probability of the distribution. The significance level for the distribution was determined by consulting the tables in Roscoe (1969), which are based on the tables in Finney (1948) and eliminate the need to calculate the alternative distribution probabilities for the observed distribution.

The comparisons, including and excluding freshmen, for Fraternity 1 and Fraternity 2 were all significant at $p < .05$. In addition, there were two χ^2 comparisons performed, in which the distributions of Fraternity 1 and Fraternity 2 were pooled, so that overall comparisons including and excluding freshmen could be examined. While these can be viewed only for illustrative purposes, as 2 of the 4 cells have less than five observations (Hays, 1963), they are both highly significant, at $p < .001$ and $p < .005$ respectively.

A summary of the distributions and results are shown in Table 5.

Comparisons of the three fraternities

To determine if the three fraternities responded similarly to the questionnaire items, ANOVAs were performed on the scores obtained on the different scales and subscales. There were highly significant differences between the groups on the Mach Scale ($p < .005$) and on the

TABLE 5

Comparisons of Office Holding and Peer Ratings

Fraternity 1

	Including freshmen			Excluding freshmen		
	<u>rated</u>	<u>not rated</u>	<u>Totals</u>	<u>rated</u>	<u>not rated</u>	<u>Totals</u>
Officer	8	2	10	8	2	10
Non-officer	$\frac{1}{9}$	$\frac{6}{8}$	$\frac{7}{17}$	$\frac{1}{9}$	$\frac{5}{7}$	$\frac{6}{16}$
	(FEP=.013) p < .05 (2 tailed)			(FEP=.023) p < .05 (2 tailed)		

Fraternity 2

	Including freshmen			Excluding freshmen		
	<u>rated</u>	<u>not rated</u>	<u>Totals</u>	<u>rated</u>	<u>not rated</u>	<u>Totals</u>
Officer	5	2	7	5	2	7
Non-officer	$\frac{0}{5}$	$\frac{10}{12}$	$\frac{10}{17}$	$\frac{0}{5}$	$\frac{6}{8}$	$\frac{6}{13}$
	(FEP=.004) p < .01 (2 tailed)			(FEP=.016) p < .05 (2 tailed)		

Pooling Fraternity 1 and Fraternity 2

	Including freshmen			Excluding freshmen		
	<u>rated</u>	<u>not rated</u>	<u>Totals</u>	<u>rated</u>	<u>not rated</u>	<u>Totals</u>
Officer	13	4	17	13	4	17
Non-officer	$\frac{1}{14}$	$\frac{16}{20}$	$\frac{17}{34}$	$\frac{1}{14}$	$\frac{11}{15}$	$\frac{12}{29}$
	$\chi^2=14.6982$, 1 d.f., p < .001			$\chi^2=10.4926$, 1 d.f., p < .005		

Anomia Scale ($p < .002$). Scheffe tests were performed (Ferguson, 1966) to determine the source(s) of these differences. On the Mach Scale, Fraternity 3 had significantly lower scores than Fraternity 1 ($p < .01$) and Fraternity 2 ($p < .10$). On the Anomia Scale, the Scheffe Tests indicate Fraternity 3 is significantly lower on the Scale than Fraternity 1 ($p < .01$), while Fraternity 2 tends to be lower than Fraternity 1 ($p < .25$).

On the Assault Subscale there was a moderate difference between the groups ($p < .09$). On this scale, however, the source of difference, as determined by Scheffe tests, comes from the difference between Fraternity 1, which had the lowest mean, and Fraternity 2, which had the highest ($p < .15$).

Bartlett's Test for Homogeneity of Variances was performed for all the comparisons described above, and the results were all non-significant at $p < .05$.

The results for the comparisons described above are summarized in Table E which can be found in Appendix VI.

Only Fraternity 1 and Fraternity 2 completed the evaluations of the group's functioning. A t-test comparing these ratings were non-significant, but an F_{\max} test, comparing the variances was significant ($p < .01$). The results, which are shown in Appendix VI, Table F, indicate the members of Fraternity 2 varied far less in their rating of their fraternity than did the members of Fraternity 1 in their ratings of their fraternity.

Comparisons of the leaders of the three fraternities

While the members of the 3 fraternities varied considerably on

their scores, as shown above, it was decided to compare the leaders of these organizations to determine if they would be more alike. One way ANOVA's were performed for their scores on all scales, and significant differences were found on the Mach Scale ($p < .05$) and the Anomia Scale ($p < .01$).

On the Mach Scale, Fraternity 2 had the highest mean, which Scheffe Tests indicated was not significantly different from that of Fraternity 1, but was significantly higher than that of Fraternity 3 ($p < .05$). The mean for Fraternity 1 was also noticeably higher than that of Fraternity 3 ($p < .10$).

On the Anomia Scale, the leaders of Fraternity 3, as shown by Scheffe Tests, had a significantly lower mean than Fraternity 1 ($p < .01$) and Fraternity 3 ($p < .05$).

The results of the ANOVAs and the Scheffe Tests are summarized in Table G, Appendix VI. It should also be noted F_{\max} tests comparing the variances of the leaders on each scale (Winer, 1962) were non-significant at $p < .05$.

Leaders compared to non-leaders

It was decided to use three methods to compare leaders and non-leaders. First, each group would be considered separately, and leaders would be compared to non-leaders, on all scales. The statistic to be used would be either the Fisher's Exact Probability or the chi-square, depending on the sample size. The members would be compared in 2×2 tables, with the marginal categories being status: leader or non leader; and median position: above or below the group's median. Individuals falling on the group median for a particular scale would

be omitted from consideration on that scale.

It was also decided to compare the relative positions of leaders and non-leaders across groups. In this case, the cells would be summed across groups.

Finally, the scores of the entire fraternity population would be considered on each scale, and one group median would be drawn, and then all leaders would be compared to all non-leaders.

Within-group comparisons:

Fraternity 1:

Officers vs. non-officers: In the comparisons involving officers and non-officers on the different scales, none in Fraternity 1 achieved statistical significance at $p < .05$. The only suggestive distribution occurred on the Hostility Scale, for which the FEP=.059. Officers tended to fall above the median while non-officers tended to fall below the median. With the freshmen eliminated from this comparison (there was only one freshman responding in Fraternity 1) the FEP became .056 (in a two-tailed test, neither FEP is significant at $p < .10$). The distributions are summarized in Appendix VI, Table H.

In a comparison involving high officers and low officers on the Assault Subscale, the distribution has an FEP=.023, which is significant in a two-tailed test at $p < .05$. The distribution indicates all high leaders are found above the median, while almost all low leaders are found below the median. The distribution is summarized in Table I, Appendix VI.

Peer ratings: No significant distributions emerged for comparisons involving those nominated as "propelling" and those not nominated

when position above and below the median on the different scales were utilized.

Fraternity 2:

Officers vs. non-officers: No comparisons were statistically significant. Comparisons on two scales did have $FEP < .10$. On both the Mach Scale and the Anomia Scale officers tended to be above the median and non-officers tended to be below the medians, when freshmen were excluded from consideration ($FEP = .073$ on both scales). When freshmen were included in the comparisons, the FEP was above .10 on both scales, as more non-leaders were above the median.

On the Dogmatism Scale, the FEP for the comparison including freshmen was barely below $p = .10$ (obtained $FEP = .091$). When freshmen were removed from this distribution, the non-leader/above median cell deflated, causing the FEP to go over .10. These distributions are shown in Table J, Appendix VI.

Peer ratings: Two significant distributions emerged. In both cases, on the Anomia Scale and the Mach Scale, those rated as propelling members fell above the median, while those not rated tended to fall below the median. For distributions on the Mach Scale including and excluding freshmen, the results were significant at $p < .05$, for 2-tailed FEPs. On the Anomia Scale, the results were significant at the .01 level when freshmen were excluded, and were significant at the .05 level when freshmen were included. These distributions are shown in Table 6.

Fraternity 3: Since the total membership for Fraternity 3 was

TABLE 6

Comparison of Peer Ratings and Scoring Patterns for Fraternity 2

<u>Mach Scale</u>	<u>Excluding Freshmen</u>			<u>Including Freshmen</u>		
	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>
Rated	0	4	4	0	4	4
Not rated	<u>7</u>	<u>1</u>	<u>8</u>	<u>8</u>	<u>2</u>	<u>10</u>
	7	5	12	8	6	14
	(FEP=.010) p < .05			(FEP=.014) p < .05		
<u>Anomia Scale</u>	<u>Excluding Freshmen</u>			<u>Including Freshmen</u>		
	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>
Rated	0	5	5	0	5	5
Not rated	<u>7</u>	<u>1</u>	<u>8</u>	<u>8</u>	<u>4</u>	<u>12</u>
	7	6	13	8	9	17
	(FEP=.005) p < .01			(FEP=.020) p < .05		

34, it was not generally possible to utilize the FEP, as the tables in Roscoe (1969) and Finney (1948) allow for consideration of groups no larger than 30. As recommended by both authors, therefore, chi-squares were computed for the different distributions, with Yates' correction for continuity where appropriate (Hays, 1963).

The distributions on both the Dogmatism and Anomia scales achieved significance both when freshmen were included in and excluded from the comparisons. The distributions, which are presented in Table 7a, show that officers almost always fall below the median on these scales, while non-officers tend to fall above the median.

On the Assault subscale, when high and low officers are compared, a significant FEP emerged ($FEP=.017$, $p < .05$, two tailed), and the distribution, which is shown in Table 7b, indicates all high officers fell below the median, while all low officers fell above the median.

General sample: Although the 26 fraternity members from the general sample were members of different organizations, officers were compared to non-officers on the different scales. No comparisons achieved significance, and only one, on the Mach scale, even approached significance. On this scale, the officers tended to fall below the median, while the non-officers tended to be above the median ($FEP=.084$, excluding freshmen; $FEP=.054$, including freshmen). The distributions are shown in Appendix VI, Table Ka.

Sorority members: No significant distributions emerged for sorority members when officers were compared with non-officers. The only noticeable trend occurred on the Mach Scale, where high officers tended to fall below the median, while low officers tended to fall

TABLE 7a

Distribution of Officers and Non-officers on the
Dogmatism and Anomia Scales, Fraternity 3

<u>Dogmatism Scale</u>						
	<u>Including freshmen</u>			<u>Excluding freshmen</u>		
	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>
Officer	8	0	8	8	0	8
Non- Officer	<u>9</u>	<u>17</u>	<u>26</u>	<u>7</u>	<u>15</u>	<u>22</u>
	17	17	34	15	15	30
	$\chi^2=8.0096$, 1 d.f., $p < .005$			$\chi^2=8.35$, 1 d.f., $p < .005$		

<u>Anomia Scale</u>						
	<u>Including freshmen</u>			<u>Excluding freshmen</u>		
	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>	<u>Below</u> <u>Median</u>	<u>Above</u> <u>Median</u>	<u>Totals</u>
Officer	7	1	8	7	1	8
Non- Officer	<u>10</u>	<u>16</u>	<u>26</u>	<u>7</u>	<u>15</u>	<u>22</u>
	17	17	34	14	16	30
	$\chi^2=4.0865$, 1 d.f., $p < .05$			$\chi^2=5.2422$, 1 d.f., $p < .025$		

TABLE 7b
Comparison of high- and low-officers in Fraternity 3
on the Assault Subscale

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
High off.	5	0	5
Low off.	<u>0</u>	<u>3</u>	<u>3</u>
	5	3	8

(FEP=.017)

p < .05, 2 tailed (Roscoe, 1969)

above the median. The resulting $FEP=.072$, which is not significant in a two-tailed comparison. The distribution is shown in Table Kb, Appendix VI.

Across Group Comparisons:

Dogmatism Scale: In deciding to sum across cells from the previous comparisons, several decisions were made. First, only males would be included in the data. Secondly, separate pooled comparisons would be made for the three fraternities, and for the three fraternities and the members of the general sample. Since the latter group is not actually a group in the same way that the fraternities are, it was decided to do comparisons including them more for intellectual curiosity than anything else. Again, for reasons previously described, separate comparisons were made for all the above including and excluding freshmen, so that four comparisons were made on each scale (all members 3 fraternities; all members 3 fraternities + general; all non-freshmen 3 fraternities; all non-freshmen 3 fraternities + general).

The comparisons on the Dogmatism Scale were all significant at $p < .05$, and three of the four comparisons were significant at $p < .02$. Within the fraternities, both including and excluding freshmen, leaders significantly fall below the median, compared with non-leaders ($p < .01$ including freshmen; $p < .02$ excluding freshmen). Within the three fraternities and the general sample, the same pattern was significant at $p < .01$ when freshmen were included in the comparison. When freshmen were excluded, the resulting X^2 has a $p < .05$. It should be noted that all X^2 comparisons which have a cell with less than 10 observations

were computed with Yates' correction for continuity (Hays, 1963).

The distributions described above are summarized in Table 8.

Mach Scale: No comparisons on the Mach Scale achieved significance at $p < .05$. The only noticeable trend occurred for the comparison including the freshman ($p < .20$) in which officers tended to fall below the median while non-officers tended to fall above the median.

The only group, however, to have officers tend to fall above the median on this scale with non-officers falling below was Fraternity 2. It was decided, therefore, to eliminate Fraternity 2 from the comparison to see if it changed. When this is done, the new distribution yields a X^2 which is significant at $p < .05$. When freshmen are excluded from this comparison, the obtained $X^2 = 3.6088$, which barely misses the required X^2 of 3.84, but which is still significant at $p < .01$ ($X^2_{\text{required } .10} = 2.71$). These results are summarized in Table 9.

High and low officers: A similar pattern emerges for high and low officers. There is a suggestive X^2 which is significant at $p < .20$, and in the distribution, shown in Table 6, high officers tend to fall below the median while low officers tend to fall above the median. When the members of Fraternity 2 are removed from the comparisons, only 1 high officer remains above the median. The new comparisons, without Fraternity 2, are significant at $p < .025$, and are shown in Table 10.

Verbal Subscale

The only other noteworthy trend that emerges for comparisons across groups occurs on the Verbal Subscale. There is a general trend

TABLE 8

Comparisons across Group Medians on the Dogmatism Scale

<u>3 Fraternities</u>				<u>3 Fraternities + general SS.</u>			
including freshmen:				including freshmen:			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>		<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
officers	18	7	25	officers	23	12	35
Non- officers	<u>14</u>	<u>27</u>	<u>41</u>	Non- officers	<u>22</u>	<u>35</u>	<u>57</u>
	32	34	66		45	47	92
$\chi^2=7.4584, p < .01$				$\chi^2=6.3815, 1 \text{ d.f.}, p < .01$			
excluding freshmen:				excluding freshmen:			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>		<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
officers	18	7	25	officers	23	12	35
Non- officers	<u>12</u>	<u>22</u>	<u>34</u>	Non- officers	<u>19</u>	<u>27</u>	<u>46</u>
	30	29	59		42	39	81
$\chi^2=6.3672, p < .02$				$\chi^2=4.7438, 1 \text{ d.f.}, p < .05$			

TABLE 9
Comparisons of Officers and Non-officers on
the Mach Scale

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
Officers	22	15	17
Non-officers	<u>25</u>	<u>31</u>	<u>56</u>
	47	46	93

$$\chi^2=1.9566, 1 \text{ d.f.}, p < .20$$

Excluding Fraternity 2

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
Officers	20	10	30
Non-officers	<u>19</u>	<u>27</u>	<u>46</u>
	39	37	76

$$\chi^2=4.6752, 1 \text{ d.f.}, p < .05$$

(With Yates correction,
 $\chi^2=3.7151, p < .10$)

Excluding Fraternity 2 and Freshmen

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
Officers	20	10	30
Non-officers	<u>18</u>	<u>23</u>	<u>41</u>
	38	33	71

$$\chi^2=3.6088, 1 \text{ d.f.}, p < .10$$

(With Yates correction,
 $\chi^2=2.7517, p < .10$)

TABLE 10
Comparison of High and Low Officers on the Mach Scale,
Including and Excluding Fraternity 2

<u>3 Fraternities + General</u>				<u>3 Fraternities Only</u>			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>		<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
High	14	5	19	High	9	5	14
Low	<u>8</u>	<u>10</u>	<u>18</u>	Low	<u>4</u>	<u>7</u>	<u>11</u>
	22	15	37		13	12	25
$\chi^2=2.1775, p < .2$				(FEP=.12) p=n.s.			

<u>Fraternities 1, 3, and General</u>				<u>Fraternities 1 and 3</u>			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>		<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
High	13	1	14	High	8	1	9
Low	<u>7</u>	<u>9</u>	<u>16</u>	Low	<u>3</u>	<u>6</u>	<u>9</u>
	20	10	30		11	7	18
$\chi^2=6.0435, p < .025$				(FEP=.002), $p < .025$ (2 tailed)			

in Fraternities 1 and 2, and in the general sample, for leaders to fall above the median, while non-leaders tend to fall below the median. Fraternity 3, however, has an opposite trend. If the three fraternities are considered alone or with the general sample, no significant trend emerges. When Fraternity 3 is removed from consideration, however, those comparisons excluding freshmen become significant at $p < .10$. The eight comparisons performed are summarized in Appendix VI, Table L.

Comparisons involving one group median

Dogmatism Scale:

The previous comparisons between officers and non-officers involved within-group comparisons, and comparisons where cells in 2X2 tables were summed across groups. It was decided to pool the scores for the entire group of male fraternity members, and to establish one median for the entire group. Comparisons were then to be performed for the entire group with respect to officer and non-officer status and position above and below the median. Separate calculations were performed to include and exclude freshmen.

The only scale which yielded significant overall χ^2 comparisons occurred for the Dogmatism Scale. These comparisons indicated that officers were significantly more likely to fall below the group median of 14 than were non-officers. With freshmen excluded, the comparison was significant at $p < .05$. With freshmen included, the comparison became significant at $p < .01$. The distributions are shown in Table 11.

Mach Scale: No overall comparisons on the Mach Scale proved to be significant. Variations included the deletion of the total

TABLE 11
 Comparisons Utilizing One Group Median for Fraternity
 Members on the Dogmatism Scale

<u>Freshmen excluded</u>			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
Officer	21	10	31
Non-officer	<u>16</u>	<u>24</u>	<u>40</u>
	37	34	71

$$\chi^2=4.3324, 1 \text{ d.f.}, p < .05$$

<u>Freshmen included</u>			
	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
Officer	21	10	31
Non-officer	<u>17</u>	<u>34</u>	<u>51</u>
	38	44	82

$$\chi^2=7.8481, 1 \text{ d.f.}, p < .01$$

membership of Fraternity 2.* It was noted, however, that high leaders tended to fall below the median, while low leaders tended to fall above the median. The χ^2 ratio for this comparison was significant at $p < .20$. It was noted that the leaders from Fraternity 2, with one exception fell above the group median. If the officers of Fraternity 2 are removed from consideration, the comparison of high and low leaders then yields a χ^2 ratio which is significant at $p < .05$. Both distributions are shown in Table 12.

Comparisons of fraternity members with non-members and
sorority members with non-members

As a final part of the comparisons of leaders and non-leaders, it was decided to determine if significant differences might exist between organization members and non-members, which might, if they existed, affect the interpretation of the comparisons of non-leaders with leaders.

Prior to comparing fraternity members and non-members, the members of fraternities found in the general sample were compared on all scales to the total membership of the three fraternities tested separately. No comparisons achieved statistical significance at $p < .05$.

Comparisons of all fraternity members with non-members yielded no t-tests which were significant at $p < .05$. Two comparisons did yield t-ratios which were significant at $p < .10$. In both cases, on the Mach Scale ($p < .09$) and on the Verbal subscale of the BDHI ($p < .08$), the fraternity members had the higher means. Tests for homogeneity of

*These distributions are shown in Table M, Appendix VI.

TABLE 12
Comparisons of High and Low Officers on the Mach
Scale, Including and Excluding Fraternity 2

Including members of Fraternity 2:

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
High officers	11	5	16
Low officers	<u>7</u>	<u>12</u>	<u>19</u>
	18	17	35

$$\chi^2=2.3779, 1 \text{ d.f.}, p < .2$$

Excluding members of Fraternity 2:

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>
High officers	10	1	11
Low officers	<u>7</u>	<u>10</u>	<u>17</u>
	17	11	28

$$\chi^2=7.8481, 1 \text{ d.f.}, p < .01$$

variance were non-significant at $p < .05$ on both scales. A summary of these results are shown in Table 13.

Although no birth order differences were hypothesized for comparisons between fraternity members and non-members, some significant comparisons emerged. For the 88 males tested in the general sample, a chi-square was performed to determine if birth order and fraternity affiliation were independent on each other. The initial comparison produced a χ^2 ratio significant at $p < .10$ for a 4×2 comparison. Only children, however, were by far the fewest in this comparison, and were eliminated from the chi square, and a second comparison was performed. For a 3×2 comparison the resulting χ^2 ratio is significant at $p < .05$. These results are summarized in Table 14a.

When the members of the 3 fraternities were added to the initial groupings (with all four birth orders) the resulting χ^2 ratio is significant at $p < .015$. If only children are eliminated from the comparison, the resulting χ^2 ratio is significant at $p < .005$. The results are summarized in Table 14b.

Comparisons of sorority women with non-sorority women

No t-tests comparing sorority women with non-sorority women were significant at $p < .05$. Only one t-test produced a t-ratio significant at $p < .10$, and that was on the Suspicion subscale of the BDHI. The mean for sorority members was 2.1666 ($n=30$), and for non-sorority members ($n=47$) was 3.0638. The resulting t-ratio is 1.96, $p < .06$. The variance for sorority women, however, is 4.6262, and for the non-sorority members is 2.5574. An F-test, comparing the variances, produced

TABLE 13

t-tests Comparing Fraternity and Non-fraternity Males on the
Machiavellianism Scale and Verbal Subscale (154 d.f.)

<u>Group</u>	<u>N</u>	<u>Scale</u>	<u>Mean</u>	<u>Variance</u>	<u>F-ratio*</u>	<u>t-ratio</u>	<u>p. for t-ratio</u>
Fraternity	94	Mach	9.4787	11.1112	1.2388, ^a	1.71	.09
Non-fratern.	62		8.5806	8.9688	p=n.s.		
Fraternity	94	Verbal	7.6063	6.2842	1.3070, ^b	1.80	.08
Non-fratern.	62		6.8225	8.2139	p=n.s.		

*comparing variances

a: d.f. = 93, 61

b: d.f. = 61, 93

TABLE 14a

Summary of Chi-square Comparing Fraternity Members and Non-members
According to Birth Order, General Sample Ss Only

	<u>Birth Order</u>				<u>Totals</u>
	<u>Only</u>	<u>Oldest</u>	<u>Middle</u>	<u>Youngest</u>	
Fraternity members	1	10	10	5	26
Non-members	<u>3</u>	<u>10</u>	<u>22</u>	<u>27</u>	<u>62</u>
	4	20	32	32	88

$\chi^2=7.0896$, 3 d.f., $p < .1$ (p required at .05 for 2 by 4 $\chi^2=7.8147$).

Where only children are eliminated, the χ^2 for a 2 by 3 $\chi^2 = 7.0437$, which is significant at $p < .05$ (χ^2 required = 5.99)

TABLE 14b

Summary of Chi-square Comparing All Male Fraternity Members and
All Non-members According to Birth Order

	<u>Birth Order</u>				<u>Totals</u>
	<u>Only</u>	<u>Oldest</u>	<u>Middle</u>	<u>Youngest</u>	
Fraternity members	7	36	28	23	94
Non-members	<u>3</u>	<u>10</u>	<u>22</u>	<u>27</u>	<u>62</u>
	10	46	50	50	156

$\chi^2=11.2447$, 3 d.f., $p < .015$

Where only children are eliminated, the resulting $\chi^2 = 10.7609$, with 2 d.f., yielding a $p < .005$.

an F ratio of 1.8089 ($v_1=29$, $v_2=46$) which is significant at $p = .05$. In order to compare means where the population variances are unequal, the method suggested by Ferguson (1966, pp. 171-172) was utilized. Where before the t-ratio required for significance at $p = .10$ was 1.66 (and for significance at $p=.05$ was 1.99), the required t value at $p=.10$ becomes 1.6911, and the new obtained t-ratio of 1.9377 is still significant at $p=.10$ (although it is further from significance at $p=.05$, where the new required ratio is 2.0386).

No comparisons of sorority members and non-members by birth order produced any significant results.

In addition, no comparisons of fraternity members and sorority members by birth order produced any significant results.

Hypothesis 3: Comparison of subjects by sex

In order to determine if significant differences would exist between males and females on the different scales, it was decided to perform t-tests on all scales and subscales to compare males and females. Before computing the t-tests, F-ratios were computed to test for homogeneity of variances. Significant F-ratios emerged on the Dogmatism Scale, the Mach Scale, the Assault subscale of the BDHI, and the Total Hostility Scale of the BDHI, indicating that homogeneity of variance could not be assumed for females and males on these scales. Table 15 summarizes these results.

Before proceeding further, therefore, it was decided to compute Hotelling's T^2 to test the hypothesis of no overall group differences. Males and females were compared on the Dogmatism, Mach, Anomia, Total

TABLE 15
Means, Variances, and F-tests Comparing Variances for
Males and Females on All Scales

<u>Scale</u>	<u>Males</u>		<u>Females</u>		<u>F ratio for variances*</u>	<u>p</u>
	<u>Mean</u>	<u>Var.</u>	<u>Mean</u>	<u>Var.</u>		
Dogmatism	14.3589	33.0186	14.1299	18.3776	1.7966	< .01
Machiavell.	9.1217	10.3915	7.3636	6.9976	1.4850	< .05
Anomia	3.4423	3.8998	3.1558	3.0806	1.2659	n.s.
Assault Subscale	4.3782	5.2044	2.0779	3.2570	1.5979	< .05
Verbal Subscale	7.2949	7.1511	6.1168	7.4466	1.0413**	n.s.
Resentment Subscale	2.7115	3.2775	2.3506	2.5991	1.2610	n.s.
Suspicion Subscale	3.4487	5.1392	2.7142	3.9699	1.2945	n.s.
Total Assault	11.5769	18.9811	8.0909	14.7942	1.2830	n.s.
Total Hostility	6.2500	13.9693	5.0839	9.7221	1.4368	< .05

* except as noted, d.f. =155, 76.

** d.f. for this comparison 76, 155

Assault, and Total Hostility Scales. The results produced an F-ratio of 10.2830, with 5 and 227 d.f., and an approximation of Hotelling's T^2 of 52.3212, which is significant at the .0005 level, allowing a rejection of the hypothesis of no overall group differences.

An Hotelling's T^2 was also performed to compare males and females on the Dogmatism, Mach, and Anomia Scales, and on the Assault, Verbal, Resentment, and Suspicion subscales. The results produced an F-ratio of 10.5946, with 7 and 225 d.f., and an approximation of Hotelling's T^2 of 76.1402, which was significant at the .0005 level. Again, the hypothesis of no overall group differences could be rejected.

With this added information, t-tests were performed to compare the scores of males and females on the different tests. As the summary in Table 16 shows, males had significantly higher scores than females on the Mach Scale ($p < .001$), and on the Assault and Verbal subscales ($p < .001$ and $p < .002$, respectively), and on the Suspicion subscale ($p < .02$), as well as the Total Assault Scale ($p < .001$) and the Total Hostility Scale ($p < .02$).

Correlational pattern: An examination of the correlational matrices for the scales and subscales provides additional information on male-female differences. All scales and subscales intercorrelate significantly and positively for males, the probability in all cases being no less than .005, and in the majority of cases less than .0001. For women, the pattern of intercorrelations is the same on the Dogmatism, Machiavellianism, and Anomia Scales as it is for men (generally lower, though non-significantly so). When the Assault subscale, or the Total Assault Scale is one of the scales/subscales being

TABLE 16
Summary of t-tests Comparing Males and Females
on All Scales (d.f.=231)

<u>Scale</u>	<u>Male Mean</u>	<u>Female Mean</u>	<u>t-ratio</u>	<u>p</u>
Dogmatism	14.3589	14.1299	1.00	n.s.
Machiavellianism	9.1217	7.3636	4.14	<.001
Anomia	3.4423	3.1558	1.07	n.s.
Assault Subscale	4.3782	2.0779	7.73	<.001
Verbal Subscale	7.2948	6.1168	3.14	<.002
Resentment Subscale	2.7115	2.3506	1.48	n.s.
Suspicion Subscale	3.4487	2.7142	2.41	<.02
Total Assault	11.5769	8.0909	5.96	<.001
Total Hostility	6.2500	5.0869	2.45	<.02

correlated, however, the patterns for men and women often differ. On both the Dogmatism and Machiavellianism Scale there are significant correlations for men between these scales and the Total Assault Scale ($r=.36$ and $.34$ respectively, $p < .0001$). For women, however, the correlations for men and women, where the correlations have been converted to z-scores and compared by means of a t-test (Hays, 1963) is significant at the .05 level on the D Scale and the .01 level on the Mach Scale. Similar patterns are found on correlations between the Assault Scale and its subscales, and the Hostility Scale and its subscales. The results are summarized in Table 17.

These results appear to indicate that not only are there absolute differences between men and women on their scores on these different scales, but that the behaviors they represent are also integrated differently into men's and women's behavior styles.

Hypothesis 4: Comparison of subjects by birth order

A one way ANOVA* was performed for the total sample of 156 males on all tests, comparing subjects by birth order. Only one comparison reached significance, that for dogmatism. As the summary in Table 18 shows, the comparison achieved significance at $p < .02$. The Scheffe Test indicate that the youngest born children are significantly less dogmatic than oldest children ($p < .10$) and middle born children ($p < .025$).

*Bartlett's Test for homogeneity of variance was performed for all comparisons described in this section, and were not significant at $p < .05$. Winer (1962), however, indicates such comparisons should be performed only when there are a minimum of subjects per group. The Bartlett's Tests were performed using the SPSS computer program at the University of Florida.

TABLE 17

Summary of Correlation Matrices for Men and Women on all Scales with
Notations for the Level of Significance of the Correlation Within
Group and Notation for Significance of Comparison Between Sexes

Scale	Sex	Scale:	D 1	M 2	Ano 3	AsSub 4	Verb 5	Res 6	Susp 7	TotAs 8	TotHo 9
D	1	M		.2975 ^b	.3816 ^a	.3001 ^b	.2953 ^b	.4757 ^a	.4669 ^a	.3635 ^a	.4776 ^a
		F		.3821 ^c	.2613 ^f	.1908	.0706 ^x	.3055 ^e	.3818 ^c	.1293 ^x	.4022 ^b
M	2	M			.5367 ^a	.3498 ^a	.3071 ^b	.4736 ^a	.4665 ^a	.3450 ^a	.5361 ^a
		F			.3730 ^d	.0711 ^x	-.0934 ^z	.4016 ^b	.3220 ^d	-.0731 ^z	.4114 ^b
Ano	3	M				.2748 ^c	.2610 ^d	.4780 ^a	.4583 ^a	.2835 ^c	.5207 ^a
		F				.2204 ^f	.1449	.4268 ^b	.4342 ^b	.2005	.4941 ^a
AsSub	4	M					.5167 ^a	.4389 ^a	.3761 ^a	.8301 ^a	.4488 ^a
		F					.3113 ^c	.2618 ^f	.2660 ^f	.7041 ^x	.3057 ^c
Ver	5	M						.4481 ^a	.5016 ^a	.8436 ^a	.5554 ^a
		F						.2118 ^x	.1441 ^z	.8752 ^a	.2113 ^z
Res	6	M							.5693 ^a	.4923 ^a	.8240 ^a
		F							.4821 ^a	.2854 ^{f x}	.8217 ^a
Sus	7	M								.5007 ^a	.8760 ^a
		F								.2472 ^{f x}	.8913 ^a
TAs	8	M									.5025 ^a
		F									.3123 ^e

Significance of correlation between 2 scales,
within sex groups

a: p < .0001 d: p < .005
b: p < .0005 e: p < .01
c: p < .001 f: p < .05

Significance of comparison of correlation be-
tween males and females

x : p < .05
z : p < .01

TABLE 18
Comparison of All Male Subjects by Birth Order

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>p</u>
Only	10	14.1000	3.7755	3, 152	<.02
Oldest	46	14.9130			
Middle	50	15.9600			
Youngest	50	12.3000			

<u>Scheffe Test</u>			
<u>Group</u>	<u>compared to</u>	<u>Group</u>	<u>Result</u> <u>p</u>
Only		Oldest	< 1.0 n.s.
Only		Middle	< 1.0 n.s.
Only		Youngest	< 1.0 n.s.
Oldest		Middle	< 1.0 n.s.
Oldest		Youngest	5.2215 <.10
Middle		Youngest	10.6891 <.025

For males in fraternities, one F-ratio emerges with a $p < .10$ when subjects are compared by birth order. The comparison, which is summarized in Appendix VI, Table N, shows a weak trend ($p < .095$) for middle born children to be higher on this scale than the other birth order positions.

For the comparisons of non-fraternity men, only one comparison by birth order achieved significance, and this was on the Dogmatism Scale ($p < .07$). As with the entire male sample, the youngest born were the group with the lowest mean on this scale, and the middle and only born were the highest. The results are summarized in Appendix VI, Table Oa. There were, however, only 3 "only" children in the group, which made the Bartlett's Test inadvisable. Because of this, and the comparatively few members of this group, they were removed from consideration. In a comparison of the Oldest, Middle, and Youngest children, shown in Table Ob the F-ratio is significant at $p < .05$ with the strongest source of difference coming from the high mean of the middle born and the low mean of the youngest children.

Within the total female sample and the sample of sorority women, no comparisons by birth order achieved significance. For non-sorority women two F-ratios emerged with probabilities barely below .10. There were, however, 3 only children in these comparisons, and when they were removed from the analyses the new F-ratios were not significant at $p < .10$. The results are summarized in Appendix VI, Table P.

Hypothesis 5: Comparison of subjects by year in college

Males:

One way ANOVAs were computed comparing the total male sample on

all scales and subscales according to the subjects' year in college. No significant differences emerged.

Fraternity members: For fraternity members taken as a group, the only comparison which approached significance occurred on the Assault subscale, where the F-ratio achieved significance at $p < .06$. The Scheffe Test indicated the largest sources of difference occur between freshmen and sophomores, and freshmen and juniors, where freshmen have the higher scores in both cases. The results are summarized in Appendix VI, Table Qa.

There were, however, only three graduate students in this sample. For the reasons described in the previous sample it was decided to delete the graduate students from consideration, and perform a new ANOVA. The new ANOVA achieved significance at $p < .06$, and the sources of difference were the same as before. The results are summarized in Table Qb, Appendix VI.

Non-fraternity members: The only noticeable trend that occurred within the non-fraternity group was found on the Resentment subscale. The obtained F-ratio was significant at $p < .06$. The Scheffe Test indicated that the source of significance stemmed essentially from the higher mean of freshmen as compared to sophomores. The results are summarized in Appendix VI, Table R.

Females:

When the female sample is considered as a group, only one ANOVA achieved significance at $p < .05$, and this was on the Hostility Scale. There was, however, only one graduate student in the female sample, and

her mean was considerably higher than that for any other group. When her score was eliminated from the comparison, the new ANOVA did not achieve significance at either $p < .05$ or $p < .10$, although there was a general decline in scores between the freshmen and junior years. The results of the initial ANOVA are summarized in Appendix VI, Table S.

Two other comparisons for the total female sample yielded F-ratios lower than $p < .10$ for comparisons by year in college. These involved comparisons on the Dogmatism Scale and the Verbal Subscale, and were significant at $p < .095$ and $p < .09$ respectively. When the one graduate student was removed from consideration, the new ANOVAs were significant at $p < .084$ and $p < .05$ respectively. The results of the initial comparisons are shown in Appendix VI, Table T while the results of the ANOVAs with the graduate student deleted are shown in Appendix VI, Table U. The results on the Dogmatism Scale indicate scores fell between the freshmen and junior year. On the Verbal subscale, however, scores increased between the sophomore and senior years.

Sorority women: No significant results emerged from any comparison involving the different scales and subscales when sorority women were compared by year in school.

Non-sorority women: When non-sorority women were considered by year in college, two F-ratios emerged with p 's $< .10$, one on the Dogmatism Scale and one on the Hostility Scale ($p < .095$ and $p < .09$, respectively). There was a general decline on scores between the freshman and junior year, with an increase for the seniors and graduate students. These last two groups, the seniors and graduate students, have

less than 3 members each. With these individuals deleted, the new ANOVA for the Dogmatism Scale has an F-ratio with a $p < .05$, and a $p < .08$ on the Hostility Scale. The sources of difference on these new comparisons occur because of a decline in scores between the freshman and junior classes.

The results of the initial comparisons are summarized in Table V, Appendix VI while the results of the comparisons of only freshmen, sophomores, and juniors, are shown in Table W.

Year in college and office holding

Fraternities: It is quickly apparent upon visual inspection of the data, that no freshmen held any office in any of the fraternities. To determine if this was a statistically significant feature of the sample, a 4X2 chi-square was established. The four cells contained the number of freshmen; sophomores; juniors; and seniors + graduate students. These cells were divided according to officer and non-officer status. The resulting distribution yielded a X^2 of 10.8972, which with 3 d.f. was significant at $p < .02$. The distribution is shown in Table 19a.

If freshmen are removed from this distribution, however, the new $X^2 = 1.62$, which is not significant with 2 d.f. Apparently, therefore, leadership is only significantly biased against freshmen.

Sorority members: Since only 30 sorority members were found in the general sample, there were too few subjects to permit a 4X2 comparison. It was decided, therefore to collapse cells to allow a comparison between lower classwomen (freshmen and sophomores) and upper

TABLE 19a
Summary of χ^2 Comparison for Year in College and
Office Holding in Fraternities

	<u>Fr.</u>	<u>So.</u>	<u>Jr.</u>	<u>Sr/Gr.</u>	<u>Totals</u>
Officers	0	8	16	11	35
Non-officers	<u>13</u>	<u>17</u>	<u>17</u>	<u>12</u>	<u>59</u>
	13	25	33	23	94

$$\chi^2=10.8972, 3 \text{ df.}, p < .02$$

TABLE 19b
Summary of χ^2 Comparison for Sorority Members According
to Year in College and Office Holding

	<u>Fr.+ So.</u>	<u>Jr.+ Sr.</u>	<u>Totals</u>
Officers	1	7	8
Non-officers	<u>17</u>	<u>5</u>	<u>22</u>
	18	12	30

$$\chi^2=7.7343, 1 \text{ d.f.}, p < .01$$

classwomen (seniors and juniors). The distribution, which is shown in Table 19b, shows that of 18 lower classwomen, only 1 reports holding an office, while 7 of the 12 upperclasswomen hold office. The resulting χ^2 , computed with Yates' correction was significant at $p < .01$.

Peer rating and year in college

Most probably due to the small sample size, comparisons involving peer ratings and year in school are less definitive than those involving the larger sample on office holding. In Fraternity 1, there is only 1 freshman, who was not rated as being a propelling member. The total number of subjects in Fraternity 1 is too small to permit a 4X2 comparison. With cells collapsed to allow a 2X2 table, where upper classmen can be compared to lower classmen, the resulting FEP was not significant.

In Fraternity 2, no freshmen or sophomores were rated as propelling members, but only five of the eleven upper classmen were so rated. The resulting 2X2 FEP was .073, but this was not significant in a two tailed test at $p < .10$.

The results for both groups were pooled, but the resulting 4X2 table was still too small to allow a χ^2 comparison. When the college year cells were collapsed to permit a comparison of upper and lower classmen, the resulting χ^2 of 1.6981 was not significant at $p < .10$, with 1 d.f. The distributions for the pooling of the two fraternities are shown in Table 20.

TABLE 20
Summary of X^2 Distributions of Peer Ratings
and Year in College (All Years)

	<u>Fr.</u>	<u>So.</u>	<u>Jr.</u>	<u>Sr+Gr.</u>	<u>Totals</u>
Rated	0	2	6	4	12
Not rated	<u>5</u>	<u>5</u>	<u>8</u>	<u>4</u>	<u>22</u>
	5	7	14	8	34

Summary of X^2 Distributions of Peer Ratings
and Year in College (Combined Years)

	<u>Fr/So.</u>	<u>Jr/Sr/Gr.</u>	<u>Totals</u>
Rated	2	10	12
Not rated	<u>10</u>	<u>12</u>	<u>22</u>
	12	22	34

$X^2=1.6981$, 1 d.f., n.s.

DISCUSSION

The first hypothesis, expecting factorial similarities to emerge from an analysis of the Dogmatism Scale and the Machiavellianism Scale was confirmed. Items from these scales clustered together on four factors, and as expected reflected a disaffected view of the motivations and capabilities of others, and were accompanied by feelings of resentment, suspicion, and generalized hostility. These aspects of the authoritarian's personality have been consistently expected and reported in the literature (Rokeach, 1960; Vacchiano, et al., 1969). Christie and Geis (1970a), in their description of the Machiavellian considerably overestimated the "cool" facade and generally detached guise that the Machiavellian portrays as part of his persona.

The findings of this study, that the Machiavellian and the authoritarian share a disaffected and hostile view of others is consistent with previous research. Both scales have been reported in previous studies to have significant correlations with measures of hostility such as the Buss-Durkee Hostility Inventory (Larsen, 1971; Wrightsman and Cook, 1970; Heyman, 1970). Both scales have also been reported to have significant correlations with the Rotter Internal-External Locus of Control Scale (Solar and Bruehl, 1971; Clousse and Hjelle, 1970; Miller and Minton, 1969). In their significant relationships to the I-E Scale, both the Mach Scale and the Dogmatism Scale indicate the authoritarian and the Machiavellian are more likely to be

external in their locus of control. In essence this means both the authoritarian and the Machiavellian will feel relatively powerless in a world controlled by others and circumstances which they can only indirectly affect. Externality carries with it feelings of resentment and hostility in relation to the feelings of powerlessness.

It should be noted that these results do not mean that authoritarianism and Machiavellianism are identical or even highly similar. Previous work on the Dogmatism Scale (Pedhazur, 1971) suggests that personality types such as dogmatism are not unitary traits ranging from "all" or "nothing" in their presence, but rather a composition of related traits. The results of this study, as well as the similar findings of the previous research discussed, suggests that despite differences between the authoritarian and the Machiavellian, both feel alienated and isolated from others, and hostile towards them. In theoretical terms, the authoritarian is expected to be more rigid, more deferential to authority, more narrowed in contacts with ego-alien experiences, and striving towards a moralistic perfectionism. The Machiavellian, in theoretical terms, is expected to be more aloof from others and from any rigid belief system. The results of previous research generally confirm both of these theoretical expectations (Rokeach, 1960; Vacchiano, et al., 1969; Christie and Geis, 1970a).

The results of the factor analysis performed in this study also confirm this in terms of the factorial separation of items from the Dogmatism Scale and the Machiavellianism Scale. Thus, while items clustered together on four factors, there were also separate factors. On three factors only D Scale items emerged, along with non-Mach items

from the Mach Scale, representing the narrowness and perfectionistic strivings and disappointments of the authoritarian. On one factor, items from the Mach Scale clustered together, presenting the duplicity and amorality of the Machiavellian, and clustering with that were non-dogmatic items from the D Scale. This factor represented not only an affirmation of Machiavellian ideas and tactics, but a rejection of authoritarian narrowness and strivings.

There are two critical aspects, then, with respect to the results of the first hypothesis. As would be expected from implicit features of previous research, there is a factorial similarity between authoritarianism and Machiavellianism. The disaffected views of others and feelings of resentment and hostility towards others that has been characteristic of descriptions of the authoritarian is applicable to the Machiavellian. This moderates the aloof and detached descriptions of the Machiavellian. It further suggests that the aloof and detached countenance presented by the Machiavellian may in fact be a part of a general facade which covers these more negative views. Parenthetically, it may be that this facade has "Mached" researchers in terms of preventing a closer examination of negative aspects of the Machiavellian's character.

These findings, however, do not indicate a total similarity between the authoritarian and the Machiavellian. Consistent with theoretical expectations and previous research, there are factorial differences between the Dogmatism Scale and the Machiavellianism Scale, despite the factorial similarity described above. What this means, then, is that while the authoritarian and the Machiavellian are more alike, in

critical ways, then has previously been made explicit, they are also different in ways that have been expected. The authoritarian and the Machiavellian share a disaffected and hostile view of others, but the authoritarian will seek authorities to defer to, will narrow contacts with ego-alien experiences, and will show moralistic, perfectionistic strivings in his life-style, while the Machiavellian will apparently erect an aloof, detached facade despite these underlying feelings, and will take a manipulative, exploitative approach to others when it is personally desirous.

It is worth noting that there are implicit clues in the literature as to how the similarities between the authoritarian and the Machiavellian develop. Both the Machiavellian and the authoritarian have been reported to have greater difficulty with parental interactions during childhood. Adorno, et al., (1950) stated that authoritarianism develops in part due to hostility towards parental figures which cannot be expressed directly. Rokeach (1960) noted that more dogmatic individuals were more likely to manifest childhood anxiety symptoms, apparently in relation to a stressful home environment, more frequently than non-dogmatic individuals. Schwendiman, et al., (1970), noted that more authoritarian individuals reported stronger parental discipline during childhood. With respect to the Machiavellian's childhood, Guterman (in Christie, 1970) reports a negative relationship between index of rapport with parents and Machiavellianism. In a group of Spanish subjects (Christie and Geis, 1970a), as Machiavellianism increased so did negative comments about the subjects' relationships with their parents. While more systematic research would be required to confirm this

speculation, it would appear as though the disaffection and hostility towards others shown by both the Machiavellian and the authoritarian begins with unsatisfactory relationships with the parents.

Within the parameters of this study, the second hypothesis, which expected leaders to be less authoritarian and less Machiavellian than non-leaders was partially confirmed. The general parameters of this study involved the utilization of a certain type of group and a certain type of leader. The groups studied were college fraternities. These groups are made up of individuals who voluntarily join an organization organized along democratic, participatory lines. Further, these organizations fulfill both task and socio-emotional functions, and require sustained interpersonal contact over several years. The leaders of these organizations are either directly elected, for high office, or appointed by elected leaders for lower offices. The leaders are required to provide both task leadership and socio-emotional leadership.

The two criteria available for classifying individuals as leaders and non-leaders were officer status (past or present) within a fraternity or sorority, and peer-nominations of individuals as "propelling forces" in the organization. These two criteria were very significantly related to each other. As only two of the three organizations participating in this study completed the ratings, officer status was most frequently used as the leadership criteria.

The most clear finding with respect to the second hypothesis was that officers are less dogmatic than non-officers. This was true even when freshmen were removed from consideration. Freshmen, it should be

noted, were removed from all comparisons because they never held leadership positions (either officer status or in ratings) and had a tendency to have higher, though non-significantly so, means on the different scales than upper classmen. Based on Rokeachian theory, and other research on dogmatism, it would be expected that the flexibility, tolerance, and comparative open-mindedness of individuals lower on the Dogmatism Scale not only provides them with the necessary tools for leadership within the organizations studied, but no doubt makes it more likely that they will be leaders. Not only are such individuals more likely to provide the flexibility and direction that organizational problem solving will require, but they are also more likely to be able to provide the effective socio-emotional atmosphere required for an organization with sustained interpersonal interactions.

The more positive climate in experimental groups noted by Haythorn, et al. (1956), would be of greater importance in an on-going group. At the same time, the maintenance functions required for effective group functioning (Nylen, et al., 1967) seem more likely to be engaged in by the less authoritarian (Haythorn, et al., 1956; Zagona and Zurcher, 1964; Frye, et al., 1972). It should also be noted that while significant differences emerged between leaders of the three fraternities on other scales involved in the study, no differences emerged on the Dogmatism Scale.

The results of leader vs. non-leader comparisons on the Machiavellianism Scale were far less clear in their implications. There was an overall, but non-significant tendency for officers to be lower on the Mach Scale than non-officers. In looking at the different subgroups

in the study (the three fraternities and the fraternity members in the general sample), it was found that in all the groups except Fraternity 2 the trend was for officers to be lower on the Mach Scale than non-officers, but in Fraternity 2 the opposite trend existed. Not only that, high officers were even more likely than low officers to be above the group median on the Mach Scale. Indeed, of the three fraternities, the leaders of Fraternity 2 had the highest scores on the Mach Scale, although the leaders of Fraternity 1 were only slightly, and non-significantly lower. When the leaders of Fraternity 2 were deleted from the different comparisons on the Mach Scale, the trend for leaders to be lower than non-leaders, and for high leaders to be lower than low leaders became statistically significant.

Within the types of organizations studied it appears that leaders are somewhat more likely than members to demonstrate a more trusting and open attitude towards others, and to describe themselves as less manipulative of others. Again, the organizations studied are voluntarily joined, and participation is geared around mutually advantageous activities. Such an atmosphere is not apparently attractive to a Machiavellian. At the same time, the organizations require sustained contact over a number of years, and deceitful or manipulative tactics are more likely to be discovered or backfire on the perpetrator.

Why the officers of Fraternity 2 differed from the other groups cannot be ascertained. This blurred result is confounded by the peer ratings in Fraternity 2, in which those nominated are significantly more likely to fall above the group's median on the Mach Scale than are those not rated. It may be that in Fraternity 2 the leaders have

"Mached" or "conned" their way into leadership. It may even be particularly truer that within the "partying" and "rabble rousing" atmosphere that is attributed to Fraternity 2, more Machiavellian leaders would be desired. It should be noted that of the 3 fraternities only in Fraternity 2 did those officers in power at the time of testing not take part in the experiment, leaving only past leaders and current members to participate. This would add to the impression that the officers of Fraternity 2 had engaged in a clever manipulation of their fellow members, and in this respect were different from the other officers of the other fraternities.

There were suggestions based on informal observations, that differences in the scores of leaders and members on these different scales may be related to the organizational functioning. Fraternity 1, the fraternity that seemed to have the most organizational problems, had members with significantly higher scores on the Anomia Scale as compared with the other two fraternities. The leaders of this group had the highest scores on the Anomia Scale. The comparatively higher anomic feelings experienced and expressed by the members of Fraternity 1 seem very likely to be related to organizational difficulties. It would be harder, with increasing feelings of anomie, to work effectively on tasks or socio-personal relationships.

Of the three fraternities, Fraternity 3 appeared to be the one by my observations and by general campus reputation to be the most effectively functioning of the fraternities studied. Not only were the leaders less anomic and less Machiavellian than the leaders of the other fraternities, but the members were significantly lower on these scales

than the members of the other two fraternities. Within this organization, the officers were significantly less dogmatic and anomic than the members. Further, high officers reported they were significantly less assaultive than low officers.

Several critical points can be gathered from these results, and they in turn generate new hypotheses. Leaders within the type of organizations examined in this study, appear to be significantly more flexible and tolerant than non-leaders, as measured by scores on the Dogmatism Scale. Within voluntarily joined, democratically-oriented, participative groups such as fraternities, in which sustained interpersonal interactions will be occurring, the flexibility and tolerance of less dogmatic individuals would make it more likely that they could fulfill both the task and maintenance requirements of leadership within the organization.

There is a less clear trend for officers to be less Machiavellian than non-officers. Within the organizations studied, it would appear as though the manipulations and disaffected views of the Machiavellians would backfire or at least become apparent over the length of time and required sustained interactions, and make the Machiavellian less likely to remain a leader. Within one organization, however, and apparently related to that organization's values, Machiavellians were more likely to be leaders. This suggests that even within ongoing, participative organizations Machiavellians can become leaders, though apparently with the consent of the members.

The overall results suggest that leaders reflect the climates of their organizations. Further research would be required to verify this.

More Machiavellian and anomic groups have more Machiavellian and anomic leaders when compared with other groups. The group that appeared in this study to be functioning the most effectively had leaders who were less Machiavellian and less anomic than the leaders of the other groups. At the same time, the leaders of this group were less dogmatic and less anomic than the non-leaders in the group. The group with the greatest organizational difficulties had the most Machiavellian and anomic membership, as well as hostile and aggressive officers.

Further research would be required to verify the hypothesis that organizations having more difficulty functioning are more likely to have members and leaders with higher scores on scales like the Mach and Anomia Scales as compared to members and leaders of more effectively functioning organizations. Longitudinal studies would appear to be required to determine whether membership climates generate specific leadership climates, or whether the membership climate is determined by leadership.

Finally, no significant differences emerged on the scales between members and non-members of organizations, although several trends were noted. For males, however, first-born males were significantly more likely to join fraternities compared with individuals of other birth orders than would be expected. This conforms to Adlerian views on birth order (Ansbacher and Ansbacher, 1956; Schachter, 1959; Zimbardo and Formica, 1963). The first born child is seen as having a stronger need for affiliation with others, compared to individuals of other birth orders. It is likely, therefore, that the first born child, when confronted with the stressful, unstructured college environment, would

gravitate towards structured organizations to meet his affiliative needs.

The third hypothesis in which overall expectations were made about differences in reports of hostility and aggression between males and females were confirmed, although contrary to the hypothesis and previous research no significant differences existed between males and females on the Dogmatism Scale. It would be expected, based on sex-role behaviors, that males would be more able to both admit to and act out upon hostile and aggressive feelings. Men are also able to be more variable than women in their responses to the items tapped by these scales. While males can admit to the presence of the attitudes and behaviors to a lesser or greater extent, it is far more likely that women would tend to take a minimum to moderate positioning both in the admission to and expression of the attitudes and behaviors.

In addition to the differences in scores between males and females on different scales, there were also specific significant differences in intercorrelational patterns for males and females. While the Hostility subscales correlate significantly with Dogmatism, Machiavellianism, and Anomia for both men and women, only for men do the Verbal and Assault subscales, and the total Aggression Scale, correlate significantly with the Dogmatism, Machiavellianism, and Anomia Scales. These different intercorrelational patterns suggest that males are more able to differentially integrate hostile and aggressive behavior patterns into their personality organizations. While the increasing presence of dogmatism, Machiavellianism, and anomia are likely to reflect increasing feelings of hostility and suspicion, only

in men does it appear likely that increasing amounts of physical and verbal aggression will be expressed, at least based on self-report inventory information.

These findings are compatible with the expression of sex-role behaviors, which would allow men greater flexibility to both admit to and express hostile and aggressive behaviors when compared to women. The results also suggest that inventories such as the Dogmatism Scale and the Machiavellianism Scale, which tap hostile and aggressive components, are likely to surface differences between males and females due to the inability of the instrument to tap the same components for women. Women may in fact be as Dogmatic and Machiavellian, but the methods used are different from those tapped by the Machiavellian and Dogmatic Scales.

The fourth hypothesis predicted that last born children would be the least dogmatic, while first born children would be the most dogmatic. This hypothesis was partially confirmed in that last born males were found to be significantly lower on the Dogmatism scale when compared to middle and first born children. Middle born children, however, were the most dogmatic, being slightly though non-significantly higher than first born children.

In Adlerian theory (Ansbacher and Ansbacher, 1956) the first born is expected to be the most rigid and conservative, and hence the most dogmatic (Wisdom and Walsh, 1975). The last born, in Adlerian theory, is expected to be the rebel, the individual seeking to do things differently, and hence the one least likely to be conventional or dogmatic. The results of this study confirm the expectation that the

youngest child is the least dogmatic. No clear reason emerges to explain why contrary to the hypothesis the middle born child is the most dogmatic. It may be that always being in the middle of the chain of command convention and inflexibility in fact become more important to the middle born.

Some previous research has been reported in which middle and last born children have been lumped into one group, and then compared in dogmatism to first born children (Schwendiman, et al., 1970; Kilpatrick and Cauther, 1968). In these studies the lumped group has been the most dogmatic. The results of this study, as well as that of Wisdom and Walsh (1975) indicate that considerable information is likely to be obscured by lumping together middle and last born children into one group.

No significant differences emerged for women with respect to comparison by birth order. It again seems likely that the behaviors tapped by the scales used in this study are more likely to be differentially integrated into male behavior patterns.

The fifth hypothesis predicted a drop in scores during the college years on the scales used in this study. This hypothesis was not confirmed. There were no significant differences in comparisons of subjects by year in college. There were trends for scores to decline between the freshman and junior years, but these trends did not reach significance.

The most important aspect of the examination of students by year in college was finding that freshmen are not likely to either hold office in organizations or be seen by members of organizations as

propelling forces. This is a most necessary consideration to take into account when comparing leaders and non-leaders. Since freshmen are not relatively equally distributed in leadership and non-leadership, they can bias a sampling distribution. To that end, in this study, all comparisons of leaders and non-leaders were done including and excluding freshman. The results described in this study, therefore, have accounted where necessary for differences caused by year in college. However, the consideration of freshmen as non-leaders would need to be made in any further research. After the freshman year, however, year in college and leadership positions become independent of one another.

A last minor, though noteworthy trend was also found in comparisons of subjects by year in college. Seniors and graduate students sampled in introductory psychology classes often had unusually high scores on the scales used in this study. There are two likely explanations for this. The first is that seniors, when confronted by the demands of graduation and imminent entrance into the "real world" spontaneously recover previous attitudes and behaviors. The other explanation is that those individuals who wait until the senior or graduate year to take an introductory psychology class may be more defensive, dogmatic, or hostile as a group than the general senior and graduate student population. Such individuals may delay involvement in a course that could challenge their cognitive defenses.

SUMMARY AND CONCLUSIONS

This study was conducted principally to examine the factorial nature of the Dogmatism Scale and the Machiavellianism Scale, and to examine the relationship of these personality types to organizational leadership. To measure these variables, a research questionnaire was assembled which contained Rokeach's Dogmatism Scale (Rokeach, 1960); the Machiavellianism Scale (Christie and Geis, 1970a); a modified version of the Srole Anomia Scale (Christie and Geis, 1970a); and the Assault, Verbal, Resentment, and Suspicion subscales of the Buss-Durkee Hostility Inventory (Buss and Durkee, 1957). The research questionnaire contained 111 true-false items.

There were two major and three subsidiary hypotheses. First, it was hypothesized that a factorial similarity would exist between Dogmatism and Machiavellianism, such that the authoritarian and Machiavellian share a disaffected view of the motivations and capabilities of others, and have attendant feelings of resentment, suspicion, and hostility. The second hypothesis expected that within college fraternities leaders would be less dogmatic and less Machiavellian than non-leaders. The third hypothesis (the first of the subsidiary hypotheses) expected females to be lower in scores on several scales when compared with males, and particularly on the Aggression Scale of the BDHI, and its subscales. It was also hypothesized that males would have significantly higher correlations where the Aggression Scale or its component subscales were involved. The fourth hypothesis expected first

born subjects to be the most dogmatic, and youngest children to be the least dogmatic. The fifth hypothesis expected that there would be a progressive decline in scores on the different scales between the freshman and senior years in college.

Two groups of subjects were used in this study. One group was drawn from students from introductory psychology classes at the University of Florida. Students are required to participate in research as a course requirement. From this group, 77 females and 88 males were final participants. They were administered the research questionnaire in small groups, and were also given a questionnaire which asked about participation in various group activities, and about offices held in these groups. From this questionnaire it was possible to determine participation in fraternities and sororities, and offices held in these groups. Three fraternities also volunteered to participate in the research, and a total of 64 men from these groups completed the research questionnaire and the activity participation questionnaire. In addition, two of the three fraternities completed a Group Participation Questionnaire, based on the Group Participation Scale devised by Pepinsky, Siegel, and Van Atta (1952). This questionnaire asked members to nominate other members for various propelling roles they could play in the group. These two fraternities also completed a seven point rating of their fraternity's functioning.

The hypothesized factorial similarity between dogmatism and Machiavellianism was confirmed. Both the authoritarian and the Machiavellian share a disaffected view of the motivations and capabilities of others, and experience attendant feelings of resentment,

suspicion, and hostility. Theoretical expectations about the Machiavellian reported in previous work (Christie and Geis, 1970a) apparently focused on the detached and aloof segments of the Machiavellian's character, and overlooked the implicit disaffection and hostility he experiences. This factorial similarity between the Dogmatism Scale and the Machiavellianism Scale contributes towards an understanding of previous research in which separate studies reported similar findings for the Machiavellian and the authoritarian.

The second hypothesis was confirmed with respect to dogmatism, where elected and perceived leaders within fraternities were less dogmatic than non-leaders. Within a voluntarily joined organization, based on democratically-oriented, participative lines, and requiring sustained interpersonal contacts over a number of years, the greater flexibility and ability of the non-authoritarian to relate to and work with others would be a considerable advantage. At the same time, the non-authoritarian within the context of an on-going organization is likely to be able to provide both a flexible, task-oriented approach when this is required, and more positively toned maintenance functions within the socio-emotional spheres when this would be required. There was a general, though non-significant trend for officers to be less Machiavellian than non-officers. The results suggest that organizational climate can be a potent determinant of officer personality, but further research would be required to confirm this.

The more positive overall picture of the leaders' personalities suggest that within ongoing, democratically oriented organizations, leaders would need to be more flexible, and more able to maintain good

interpersonal relationships. These are more likely to be facets of the non-authoritarian and the non-Machiavellian. The results also suggested organizational effectiveness was more likely to be greater in organizations with less dogmatic, less Machiavellian, and less anomic members and leaders. It was also noted that a significant relationship existed between the two criteria available for leadership, officer status and ratings by others.

In comparisons of subjects by sex, males were significantly more likely to express hostile and aggressive feelings and actions than were women. These results confirm previous research, and are consistent with a sex-role interpretation. It was also noted that on a number of intercorrelations between various scales and the Assault or Verbal subscales, or the Aggression Scale of the BDHI, the correlations were significantly higher for males. This suggests that the integration and expression of verbally and physically aggressive behaviors may be far different for males than for females. These results suggest such behaviors are more easily integrated and expressed as a part of an overall defensive and aggressive pattern for males.

A comparison of subjects confirmed the expectation based on Adlerian theory that youngest born children would be the least dogmatic. Contrary to the hypothesis, however, oldest born children were not the most dogmatic, as middle born children were slightly, though non-significantly higher. The Adlerian conception of the youngest born child being the least conforming and tradition-bound would be upheld, but the first born, based on this research would not be the most conservative and traditional. The results also indicate that previous

research lumping middle and last born children into one group may obscure important data.

No significant comparisons were found when subjects were compared by year in college.

In an overall summation, this research has contributed towards a broader understanding of the similarities, as well as the differences, of the authoritarian and the Machiavellian. It also confirms and extends previous research which ascribes more positive personality types to leaders within a voluntarily joined, democratically participative organization requiring sustained interactions over a period of years. This research also suggests that, consistent with sex-role expectations, men are more likely to admit to and to act out upon hostile and aggressive feelings. They also appear more likely to utilize hostile and aggressive behaviors as part of a defensive personality system. Finally, this research partially confirms Adlerian theory, with respect to the non-dogmatic nature of youngest born children and the stronger affiliative needs of first born children. This research also indicates that previous research on birth order that has involved groups established by lumping together middle and last born children may have obscured valuable data.

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A P P E N D I C E S

APPENDIX I

TABLE A

DOGMATISM, MACHIAVELLIANISM, AND ANOMIA

Items Hypothesized as Likely to Cluster Together

<u>Scale</u>	<u>Item</u>	<u>Number on POS</u>
Dog	In the long run, the best way to live is to pick friends and associates whose tastes and beliefs are the same as ones own.	16
Dog	Most people just don't know what's good for them.	46
Dog	Most of the ideas which get printed nowadays aren't worth the paper they're printed on.	59
Dog	Most people just don't give a "damn" for others.	66
Dog	Man on his own is a helpless and miserable creature.	70
Dog	Fundamentally, the world we live in is a pretty lonesome place.	86
Dog	The present is all too unhappy, and it is only the future that counts.	102
Mach-	Barnum was very wrong when he said there's a sucker born every minute.	17
Mach-	Most people who get ahead in the world lead clean, moral lives.	25
Mach+	Generally speaking men won't work hard unless they're forced to.	28
Mach+	It is safest to assume that all people have a vicious streak that will come out when given a chance.	32
Mach+	It is wise to flatter important people.	43
Mach-	Most men are brave	52
Mach-	Most people are basically good and kind	61
Ano+	Most people in government are not really interested in the average man.	2

- Ano- Most people can still be depended upon to come through in a pinch. 6
- Ano+ You sometimes can't help wondering if anything is worthwhile anymore. 19
- Ano+ Next to health, wealth is the most important thing in life. 49
- Ano- Most people will go out of their way to help someone else. 67

TABLE B

Items from the BDHI Likely to Cluster with Dogmatism,
Machiavellianism, and Anomia Items

Res	If I let people see the way I feel, I'd be considered a hard person to get along with.	34
Res	Other people always seem to get the breaks.	36
Res-	I don't know any people I downright hate.	50
Res	At times I feel I get a raw deal out of life.	55
Res	I don't seem to get what's coming to me.	97
Sus	I tend to be on my guard with people who are somewhat more friendly than I expected.	30
Sus	My motto is "Never trust strangers."	65
Sus	I commonly wonder what hidden reason another person may have for doing something nice for me.	101

APPENDIX II

Name: _____	Birth Order: (circle one)
Sex: M F	only child
Year: Fr. So. Jr. Sr. Grad.	oldest child
Major: _____	middle child
Age: _____	youngest child

PERSONAL OPINION SURVEY

The following is a study of what different individuals think and feel about a number of social and personal questions. The best answer to each statement is your personal opinion. We have tried to cover many different and opposing points of view. You may find yourself agreeing mildly or strongly with some of the statements, and disagreeing just as mildly or strongly with others. If you agree with a statement, circle the "T" for that statement. If you disagree with the statement, circle the "F."

This is not a questionnaire to determine "mental health" or any such dimension. It is made up of statements about different social and personal issues, about which we'd like to sample the opinions of college students.

Please indicate if you generally agree or disagree with each statement. Please try to mark each question, and to leave no blanks.

- T F 1. In the history of mankind, there have probably been just a handful of really great thinkers.
- T F 2. Most people in government are not really interested in the problems of the average man.
- T F 3. When you ask someone to do something for you, it is best to give the real reasons for wanting it, rather than giving the reasons which might carry more weight.
- T F 4. I would rather concede a point than get into an argument about it.
- T F 5. The United States and Russia have just about nothing in common.
- T F 6. Most people can still be depended upon to come through in a pinch.
- T F 7. There are a number of persons I have come to hate because of what they stand for.
- T F 8. I demand that people stand for my rights.
- T F 9. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- T F 10. When I really lose my temper, I am capable of hitting someone.
- T F 11. I seldom feel angered or insulted by other people.
- T F 12. In times like these, it is often necessary to be more on guard against ideas put out by groups and people in one's own camp than by those in the opposing camp.
- T F 13. I seldom strike back, even if someone hits me first.
- T F 14. Almost every week I see someone I dislike.
- T F 15. It is better to be a dead hero than a live coward.
- T F 16. In the long run, the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- T F 17. Barnum was very wrong when he said there's a sucker born every minute.
- T F 18. When arguing I tend to raise my voice.
- T F 19. You sometimes can't help wondering if anything is worthwhile anymore.

- T F 20. People who continually pester you are asking for a punch in the nose.
- T F 21. Nowadays, a person has to live pretty much for today and let tomorrow take care of itself.
- T F 22. I get into fights as often as the next person.
- T F 23. A group which tolerates too much difference of opinion among its members cannot exist for long.
- T F 24. I can't help getting into arguments when people disagree with me.
- T F 25. Most people who get ahead in the world lead clean, moral lives.
- T F 26. I could not put someone in his place, even if he needed it.
- T F 27. I often find myself disagreeing with people.
- T F 28. Generally speaking men won't work hard unless they're forced to.
- T F 29. I can think of no good reason for ever hitting anyone.
- T F 30. I tend to be on my guard with people who are somewhat more friendly than I expected.
- T F 31. Although I don't show it, I am sometimes eaten up with jealousy.
- T F 32. It is safest to assume that all people have a vicious streak and it will come out when given a chance.
- T F 33. A person who gets enthusiastic about too many causes is likely to be a very "wishy-washy" sort of person.
- T F 34. If I let people see the way I feel, I'd be considered a hard person to get along with.
- T F 35. All in all, it is better to be humble and honest than important and dishonest.
- T F 36. Other people always seem to get the breaks.
- T F 37. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.
- T F 38. If given the chance, I would do something of great benefit to the world.
- T F 39. I sometimes have the feeling that others are laughing at me.

- T F 40. Even when my anger is aroused, I don't use strong language.
- T F 41. Even today, the way you make money is more important than how much you make.
- T F 42. I'd like it if I could find someone who would tell me how to solve my personal problems.
- T F 43. It is wise to flatter important people.
- T F 44. In a discussion, I often find it necessary to repeat myself several times to make sure that I am being heard.
- T F 45. People suffering from incurable diseases should have the choice of being put painlessly to death.
- T F 46. Most people just don't know what's good for them.
- T F 47. I generally cover up my poor opinion of others.
- T F 48. If I have to resort to physical violence to defend my rights I will.
- T F 49. Next to health, wealth is the most important thing in life.
- T F 50. I don't know any people I downright hate.
- T F 51. The best way to handle people is to tell them what they want to hear.
- T F 52. Most men are brave.
- T F 53. Of all the different philosophies which exist in the world, there is probably only one which is correct.
- T F 54. Once in a while, I cannot control my urge to harm others.
- T F 55. At times I feel I get a raw deal out of life.
- T F 56. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
- T F 57. Anyone who completely trusts anyone else is asking for trouble.
- T F 58. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- T F 59. Most of the ideas which get printed nowadays aren't worth the paper they're printed on.

- T F 60. Never tell anyone the real reason you did something unless it is useful to do so.
- T F 61. Most people are basically good and kind.
- T F 62. There is so much to be done, and so little time to do it in.
- T F 63. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, Beethoven, or Shakespeare.
- T F 64. When I get mad, I say nasty things.
- T F 65. My motto is "never trust strangers."
- T F 66. Most people just don't give a "damn" for others.
- T F 67. Most people will go out of their way to help someone else.
- T F 68. If somebody annoys me, I am apt to tell him what I think of him.
- T F 69. It is only when a person devotes himself to an ideal or cause that life becomes worthwhile.
- T F 70. Man on his own is a helpless and miserable creature.
- T F 71. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."
- T F 72. I used to think that most people told the truth, but now I know otherwise.
- T F 73. My blood boils when a person stubbornly refuses to admit he's wrong.
- T F 74. Most men forget more easily the death of their father than the loss of their property.
- T F 75. It is possible to be good in all respects.
- T F 76. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- T F 77. It is hardly fair to bring a child into the world with the way things look for the future.
- T F 78. There are two kinds of people in the world: those who are for truth and those who are against truth.
- T F 79. If somebody hits me first, I let him have it.

- T F 80. The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
- T F 81. A man who does not believe in some great cause had not really lived.
- T F 82. It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes.
- T F 83. Whoever insults me or my family is asking for a fight.
- T F 84. Once I get wound up in a heated discussion, I just can't stop.
- T F 85. There are a number of people who seem to dislike me very much.
- T F 86. Fundamentally, the world we live in is a pretty lonesome place.
- T F 87. One should take action only when it is morally right.
- T F 88. There are a number of people who seem to be jealous of me.
- T F 89. In a heated discussion, I generally become so absorbed in what I am going to say, that I forget to listen to what others are saying.
- T F 90. There is no excuse for lying to someone else.
- T F 91. In times like these, a person must be pretty selfish if he considers primarily his own happiness.
- T F 92. I know that people tend to talk about me behind my back.
- T F 93. It is only natural for a person to be rather fearful of the future.
- T F 94. If you try hard enough, you can usually get what you want.
- T F 95. It is often desirable to remove judgment about what's going on until one has had a chance to hear the opinion of those one respects.
- T F 96. I have no enemies who really wish to harm me.
- T F 97. I don't seem to get what's coming to me.
- T F 98. In this complicated world of ours, the only way we can know what is going on is to rely on leaders or experts who can be trusted.

- T F 99. The average man is probably better off today than he ever was.
- T F 100. A person who thinks primarily of his own happiness is beneath contempt.
- T F 101. I commonly wonder what hidden reason another person may have for doing something nice for me.
- T F 102. The present is all too full of unhappiness, and it is only the future that counts.
- T F 103. When I disapprove of my friends' behavior, I let them know it.
- T F 104. When I look back on what's happened to me, I can't help feeling mildly resentful.
- T F 105. Honesty is the best policy in all cases.
- T F 106. It is hard to get ahead without cutting corners here and there.
- T F 107. I have known people who pushed me so far that we came to blows.
- T F 108. When people yell at me, I yell back.
- T F 109. I often make threats I don't really mean to carry out.
- T F 110. The main thing in life is for a person to do something important.
- T F 111. When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

Activity Participation

Please check any of the various types of organizations listed below you may have participated in; the degree of your participation; and write in any offices you have held.

<u>HIGH SCHOOL</u>	<u>Degree of Participation</u>					<u>Offices Held</u>
	inactive	sporadic	average	moderate	greatly	
— sports*						
— religious						
— service (eg.Key Club)						
— fraternity/ sorority						
— hobby* (eg.camera)						
— student government						

*please name them: _____

COLLEGE

	inactive	sporadic	average	moderate	greatly	
— sports*						
— religious						
— service						
— fraternity/ sorority						
— hobby*						
— student government						

*please name them: _____

Self-Description: Please circle as few or as many adjectives below that you feel describe you.

absent-minded	careless	energetic	insightful	rational
active	clear-thinking	enthusiastic	intelligent	rebellious
adaptable	clever	extraverted	interests wide	reflective
adventurous	complicated	humorous	intolerant	reserved
alert	confident	hurried	introverted	resourceful
aloof	curious	idealistic	inventive	restless
ambitious	cynical	imaginative	logical	sarcastic
argumentative	demanding	impulsive	moody	self-centered
artistic	disorderly	independent	original	sensitive
assertive	dissatisfied	individualistic	outspoken	serious
autocratic	distractible	industrious	party-going	sharp-witted
capable	egotistical	ingenious	quick	shy
				spontaneous
				tactless
				unconventional

APPENDIX III

Group Participation

Below is a list of different behaviors people can show in groups. One list, the first, shows behaviors that are called "propelling." These are behaviors that help the group to function effectively. You may nominate any number of members of your organization for as many of these behaviors as you would like. There is no limit on the number of people who may be nominated for any category, or the number of times anyone may be nominated.

Propelling

Who puts group suggestions into operation? _____

Who pushes new ways of doing things? _____

Who urges orderly methods of doing the job? _____

Whose advice do group members most often take? _____

Who gives information on how to do things? _____

Who sometimes says or does good things in the group? _____

Who encourages slow workers to greater effort? _____

Who knows how to get things done? _____

Who tried hard to do a good job? _____

Who usually agrees with what is said? _____

Who helps members most with their thinking about group suggestions? _____

Restraining

Who reacts unfavorably to everything group members want to do? _____

Who never does anything? _____

Who has a hard time putting things across? _____

Who can't seem to get the point of what the group is doing? _____

Who never listens to what others have to say? _____

Who gripes a lot, but says little that is constructive? _____

Who has little to offer the group? _____

Who changes his mind often when his suggestions meet opposition? _____

Circle the statement below that you feel best describes your group's

overall functioning. They go from one to seven points, from the most positive to the least positive.

- | | |
|------------------------------------|----------------------------------|
| (1) very smooth-couldn't be better | (5) very rough-nothing runs well |
| (2) runs fairly well usually | (6) generally runs poorly |
| (3) a little better than average | (7) a little worse than average |
| (4) average | |

APPENDIX IV

The Scale key on the following pages is arranged to list the following information:

Scale: The Scale the item is drawn from: D=Dogmatism
 A=Anomia
 M=Mach
 V=Verbal subscale, BDHI
 As=Assault subscale, BDHI
 Res=Resentment subscale, BDHI
 Sus=Suspicion subscale, BDHI

numbers indicate the number of the item on the scale from which it is drawn

small letters indicate factor clusters of items:

a/n: affirmative negativism
 tac: Mach tactics
 vw: Mach views
 mrl: traditional morality
 d: Mach duplicity

Scoring: Whether a true (+) or a false (-) scores a point on the scale

Item: The wording of the item on the Scale.

<u>Scale</u>	<u>Scoring</u>	<u>Item</u>
D29	+	1. In the history of mankind, there have probably been just a handful of really great thinkers.
A a/n	+	2. Most people in government are not really interested in the problems of the average man.
M10tac	-	3. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving the reasons which might carry more weight.
13 ver	-	4. I would rather concede a point than get into an argument about it.
D28	+	5. The United States and Russia have just about nothing in common.
A dis	-	6. Most people can still be depended upon to come through in a pinch.
D 11	+	7. There are a number of persons I have come to hate because of what they stand for.
4 ver	+	8. I demand that people respect my rights.
D 21	+	9. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
7 Ass	+	10. When I really lose my temper, I am capable of hitting someone.
10 sus	-	11. I seldom feel that people are trying to anger or insult me.
D 23	+	12. In times like these, it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.
6 As	-	13. I seldom strike back, even if someone hits me first.
4 res	+	14. Almost every week I see someone I dislike.
D 13	+	15. It is better to be a dead hero than a live coward.
D 36	+	16. In the long run, the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

- M17uw - 17. Barnum was very wrong when he said there's a sucker born every minute.
- 11 ver + 18. When arguing I tend to raise my voice.
- A aff. + 19. You sometimes can't help wondering if anything is worthwhile anymore.
- 5 As + 20. People who continually pester you are asking for a punch in the nose.
- A a/n + 21. Nowadays, a person has to live pretty much for today and let tomorrow take care of itself.
- 8 As + 22. I get into fights as often as the next person.
- D 14 + 23. A group which tolerates too much difference of opinion among its members cannot exist for long.
- Ver 3 + 24. I can't help getting into arguments when people disagree with me.
- M11 vw - 25. Most people who get ahead in the world lead clean, moral lives.
- 9 ver - 26. I could not put someone in his place, even if he needed it.
- 2 ver + 27. I often find myself disagreeing with people.
- M8vw + 28. Generally speaking, men won't work hard unless they're forced to.
- 2 As - 29. I can think of no good reason for ever hitting anyone.
- 2 sus + 30. I tend to be on my guard with people who are somewhat more friendly than I expected.
- 5 res + 31. Although I don't show it, I am sometimes eaten up with jealousy.
- M5 vw + 32. It is safest to assume that all people have a vicious streak and it will come out when given a chance.
- D20 + 33. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy'washy" sort of person.
- 7 res + 34. If I let people see the way I feel, I'd be considered a hard person to get along with.
- M9mrl - 35. All in all, it is better to be humble and honest than important and dishonest.

- 2 res + 36. Other people always seem to get the breaks.
- M13vw + 37. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
- D22 + 38. If given the chance, I would do something of great benefit to the world.
- Sus 5 + 39. I sometimes have the feeling that others are laughing at me.
- 5 Ver - 40. Even when my anger is aroused, I don't use "strong language."
- A dpl - 41. Even today, the way you make money is more important than how much you make.
- D7 + 42. I'd like it if I could find someone who would tell me how to solve my personal problems.
- M15 tac+ 43. It is wise to flatter important people.
- D3 + 44. In a discussion, I often find it necessary to repeat myself several times to make sure that I am being heard.
- M19mrl + 45. People suffering from incurable diseases should have the choice of being put painlessly to death.
- D4 + 46. Most people just don't know what's good for them.
- 12 ver - 47. I generally cover up my poor opinion of others.
- 9 As + 48. If I have to resort to physical violence to defend my rights.
- Adpl + 49. Next to health, wealth is the most important things in life.
- 6 res - 50. I don't know any people that I downright hate.
- M2 tac + 51. The best way to handle people is to tell them what they want to hear.
- M14 vw - 52. Most men are brave.
- D8 + 53. Of all the different philosophies which exist in the world, there is probably only one which is correct.
- As 1 + 54. Once in a while, I cannot control my urge to harm others.

- 8 Res. + 55. At times I feel I get a raw deal out of life.
- D 32 + 56. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
- M12 tac+ 57. Anyone who completely trusts anyone else is asking for trouble.
- D 17 + 58. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- d 37 + 59. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.
- Mltac + 60. Never tell anyone the real reason you did something unless it is useful to do so.
- M4vw - 61. Most people are basically good and kind.
- D 12 + 62. There is so much to be done, and so little time to do it in.
- D 16 + 63. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, Beethoven, or Shakespeare.
- 8 ver + 64. When I get mad, I say nasty things.
- sus 6 + 65. My motto is "never trust strangers."
- D 19 + 66. Most people just don't give a "damn" for others.
- A dis - 67. Most people will go out of their way to help someone else.
- Ver 6 + 68. If somebody annoys me, I am apt to tell him what I think of him.
- D9 + 69. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- D 27 + 70. Man on his own is a helpless and miserable creature.
- D 18 + 71. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."
- 8 sus + 72. I used to think that most people told the truth, but now I know otherwise.

- | | | |
|--------|---|---|
| D39 | + | 73. My blood boils whenever a person stubbornly refuses to admit he's wrong. |
| M20vw | + | 74. Most men forget more easily the death of their father than the loss of their property. |
| M16tac | - | 75. It is possible to be good in all respects. |
| D 35 | + | 76. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does. |
| A a/n | + | 77. It is hardly fair to bring a child into the world with the way things look for the future. |
| D26 | + | 78. There are two kinds of people in the world: those who are for truth and those who are against truth. |
| 3 As | + | 79. If somebody hits me first, I let him have it. |
| D 30 | + | 80. The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent. |
| D6 | + | 81. A man who does not believe in some great cause has not really lived. |
| D15 | + | 82. It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes. |
| 4 As | + | 83. Whoever insults me or my family is asking for a fight. |
| D 25 | + | 84. Once I get wound up in a heated discussion, I just can't stop. |
| 3 sus | + | 85. There are a number of people who seem to dislike me very much. |
| D33 | + | 86. Fundamentally, the world we live in is a pretty lonesome place. |
| M3tac | - | 87. One should take action only when it is morally right. |
| 4 sus | + | 88. There are a number of people who seem to be jealous of me. |
| D 24 | + | 89. In a heated discussion, I generally become so absorbed in what I am going to say that I forget to listen to what others are saying. |
| M7 tac | - | 90. There is no excuse for lying to someone else. |

- | | | |
|--------|---|---|
| D 5 | + | 91. In times like these, a person must be pretty selfish if he considers primarily his own happiness. |
| 1 sus | + | 92. I know that people tend to talk about me behind my back. |
| D 38 | + | 93. It is only natural for a person to be rather fearful of the future. |
| A dis | - | 94. If you try hard enough, you can usually get what you want. |
| D 34 | + | 95. It is often desirable to remove judgment about what's going on until one has had a chance to hear the opinions of those one respects. |
| 9 sus | - | 96. I have no enemies who really wish to harm me. |
| 1 res | + | 97. I don't seem to get what's coming to me. |
| D10 | + | 98. In this complicated world of ours, the only way we can know what is going on is to rely on leaders or experts who can be trusted. |
| A d/p | - | 99. The average man is probably better off today than he ever was. |
| D1 | + | 100. A person who thinks primarily of his own happiness is beneath contempt. |
| 8 sus | + | 101. I commonly wonder what hidden reason another person may have for doing something nice for me. |
| D 31 | + | 102. The present is all too often full of unhappiness, and it is only the future that counts. |
| 1 ver | + | 103. When I disapprove of my friend's behavior, I let them know it. |
| 3 res | + | 104. When I look back on what's happened to me, I can't help feeling mildly resentful. |
| M6tac | - | 105. Honesty is the best policy in all cases. |
| M18vws | + | 106. It is hard to get ahead without cutting corners here and there. |
| 10 As | + | 107. I have known people who pushed me so far that we came to blows. |
| 7 ver | + | 108. When people yell at me, I yell back. |

- 10 ver + 109. I often make threats I don't really mean to carry out.
- D2 + 110. The main thing in life is for a person to do something important.
- D 40 + 111. When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.

APPENDIX V

TABLE C

Orthogonal Rotation of 14 Factors for Female Sample

POS

<u>Item</u>	<u>Load</u>	<u>Scale and Question</u>
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FACTOR 1

6	.68	(Ano) Most people can still be depended upon to come through in a pinch.
20	.53	(Ass) People who continually pester you are asking for a punch in the nose.
65	.45	(Sus) My motto is "never trust strangers."
84	.38	(Dog) Once I get wound up in a heated discussion, I just can't stop.
8 ^a	-.36	(Ver) I demand that people respect my rights.
32	.35	(Mac) It is safest to assume that all people have a vicious streak, and it will come out when given a chance.
51	.33	(Mac) The best way to handle people is to tell them what they want to hear.
48	.32	(Ass) If I have to resort to physical violence to defend my rights I will.
72	.32	(Sus) I used to think that most people told the truth, but now I know otherwise.
111 ^b	-.30	(Dog) When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

FACTOR 2

64	-.65	(Ver) When I get mad, I say nasty things.
40	.63	(Ver) Even when my anger is aroused, I don't use strong language.
91	.46	(Dog) In times like these, a person must be pretty selfish if he considers primarily his own happiness.
70	.45	(Dog) Man on his own is a helpless and miserable creature.
13	.45	(Ass) I seldom strike back, even if someone hits me first.
79	-.43	(Ass) If somebody hits me first, I let him have it.
103	-.42	(Ver) When I disapprove of my friends' behavior, I let them know it.
108	-.41	(Ver) When people yell at me, I yell back.
29	.38	(Ass) I can think of no good reason for ever hitting anyone.
22	-.33	(Ass) I get into fights as often as the next person.
24	-.32	(Ver) I can't help getting into arguments when people disagree with me.

FACTOR 3

85	.69	(Sus)	There are a number of people who seem to dislike me very much.
54	.64	(Ass)	Once in a while I cannot control my urge to harm others.
42	.57	(Dog)	I'd like it if I could find someone who would tell me how to solve my personal problems.
97	.53	(Res)	I don't seem to get what's coming to me.
14	.42	(Res)	Almost every week I see someone I dislike.
92	.40	(Sus)	I know that people tend to talk about me behind my back.
75	-.39	(Mac)	It is possible to be good in all respects.
46	.37	(Dog)	Most people just don't know what's good for them.
79	.33	(Ass)	If somebody hits me first, I let them have it.
44	.30	(Dog)	In a discussion, I often find it necessary to repeat myself several times to make sure that I am being heard.

FACTOR 4

27	.59	(Ver)	I often find myself disagreeing with people.
56	.56	(Dog)	Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
7	.53	(Dog)	There are a number of persons I have come to hate because of what they stand for.
71	.53	(Dog)	If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."
81	.52	(Dog)	A man who does not believe in some great cause has not really lived.
101	.44	(Sus)	I commonly wonder what hidden reason another person may have for doing something nice for me.
88	.34	(Sus)	There are a number of people who seem to be jealous of me.
63	.41	(Dog)	While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, Beethoven, or Shakespeare.
84	.38	(Dog)	Once I get wound up in a heated discussion, I just can't stop.
10	.34	(Ass)	When I really lose my temper, I am capable of hitting someone.
34	.32	(Res)	If I let people see the way I feel, I'd be considered a hard person to get along with.
82	-.32 ^c	(Dog)	It is only natural that a person should have a much better acquaintance with ideas he believes in than ideas he opposes.
12	.31	(Dog)	In times like these, it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in opposing camps.

FACTOR 5

- 105 -.64 (Mac) Honesty is the best policy in all cases.
 82 .59 (Dog) It is only natural that a person should have a much
 better acquaintance with ideas he believes in than
 with ideas he opposes.
 57 .58 (Mac) Anyone who completely trusts anyone else is asking
 for trouble.
 90 -.55 (Mac) There is no excuse for lying to someone else.
 106 .54 (Mac) It is hard to get ahead without cutting corners.
 33 .44 (Dog) A person who gets enthusiastic about too many causes
 is likely to be a pretty "wishy-washy" sort of person.
 43 .39 (Mac) It is wise to flatter important people.
 60 .39 (Mac) Never tell anyone the real reason you did something
 unless it is useful to do so.
 23 .37 (Dog) A group which tolerates too much difference of opin-
 ion among its members cannot exist for long.
 87 -.36 (Mac) One should take action only when it is morally right.
 8 .31 (Ver) I demand that people respect my rights.

FACTOR 6^d

- 107 -.49 (Ass) I have known people who pushed me so far we came to
 blows.
 89 .49 (Dog) In a heated discussion, I generally become so absorbed
 in what I am going to say that I forget to listen to
 what others are saying.
 79 -.33 (Ass) If somebody hits me first, I let him have it.
 22 -.48 (Ass) I get into fights as often as the next person.
 37 .47 (Mac) The biggest difference between most criminals and
 other people is that criminals are stupid enough to
 get caught.
 60 .45 (Mac) Never tell anyone the real reason you did something
 unless it is useful to do so.
 30 -.45 (Sus) I tend to be on my guard with people who are somewhat
 more friendly than I expected.
 49 .44 (Ano) Next to health, wealth is the most important thing in
 life.
 96 .41 (Sus) I have no enemies who really wish to harm me.
 58 .38 (Dog) Even though freedom of speech for all groups is a
 worthwhile goal, it is unfortunately necessary to
 restrict the freedom of certain groups.
 12 -.39 (Dog) In times like these, it is often necessary to be more
 on guard against ideas put out by people or groups
 in one's own camp than by those in the opposing camp.

FACTOR 7

- 45 .54 (Mac) People suffering from incurable diseases should have
 the choice of being put painlessly to death.
 39 .53 (Sus) I sometimes have the feeling that others are laughing
 at me.
 11 -.51 (Sus) I seldom feel that people are trying to anger or
 insult me.

- 17 -.46 (Mac) Barnum was very wrong when he said there's a sucker
born every minute.
- 28 .44 (Mac) Generally speaking, men won't work hard unless
they're forced to.
- 86 .39 (Dog) Fundamentally, the world we live in is a pretty lone-
some place.
- 93 .38 (Dog) It is only natural for a person to be rather fearful
of the future.
- 104 .38 (Res) When I look back on what's happened to me, I can't
help feeling mildly resentful.
- 58^e -.38 (Dog) Even though freedom of speech for all groups is a
worthwhile goal, it is unfortunately necessary to
restrict the freedom of certain political groups.
- 55 .36 (Res) At times I feel I get a raw deal out of life.
- 33 .35 (Dog) A person who gets enthusiastic about too many causes
is likely to be a pretty "wishy-washy" sort of person.
- 49 .32 (Ano) Next to health, wealth is the most important thing in
life.
- 96 -.30 (Sus) I have no enemies who really wish to harm me.

FACTOR 8

- 110 .61 (Dog) The main thing in life is for a person to do something
important.
- 69 .50 (Dog) It is only when a person devotes himself to an ideal
or cause that life becomes meaningful.
- 38 .48 (Dog) If given the chance, I would do something of great
benefit to the world.
- 99 .48 (Ano) The average man is probably better off today than he
ever was.
- 63 .47 (Dog) While I don't like to admit this even to myself, my
secret ambition is to become a great man, like
Einstein, Beethoven, or Shakespeare
- 95^f -.46 (Dog) It is often desirable to remove judgment about what's
going on until one has had a chance to hear the
opinions of those one respects.
- 21 -.40 (Ano) Nowadays, a person has to live pretty much for today
and let tomorrow take care of itself.
- 81 .38 (Dog) A man who does not believe in some great cause has not
really lived.

FACTOR 9

- 16 .66 (Dog) In the long run, the best way to live is to pick
friends and associates whose tastes and beliefs are
the same as one's own.
- 23 .56 (Dog) A group which tolerates too much difference of opinion
among its members cannot exist for long.
- 47 .51 (Ver) I generally cover up my poor opinion of others.
- 83 .49 (Ass) Whoever insults me or my family is asking for a fight.
- 78 .46 (Dog) There are two kinds of people in the world: those who
are for truth and those who are against truth.

- 98 .32 (Dog) In this complicated world of ours, the only way we can know what is going on is to rely on leaders or experts who can be trusted.
- 106 .31 (Mac) It is hard to get ahead without cutting corners here and there.
- 13 .30 (Ass) I seldom strike back even if someone hits me first.

FACTOR 10

- 109 .62 (Ver) I often make threats I don't mean to carry out.
- 108 .54 (Ver) When people yell at me I yell back.
- 18 .46 (Ver) When arguing I tend to raise my voice.
- 19 .39 (Ano) You sometimes can't help wondering if anything is worthwhile anymore.
- 3 -.39 (Mac) When you ask someone to do something for you, it is best to give the real reason for wanting it rather than giving the reasons which might carry more weight.
- 94 -.38 (Ano) If you try hard enough, you can usually get what you want.
- 11 -.35 (Sus) I seldom feel that people are trying to anger or insult me.
- 31 .35 (Res) Although I don't show it, I am sometimes eaten up with jealousy.
- 88 .34 (Sus) There are a number of people who seem to be jealous of me.
- 97^g -.34 (Res) I don't seem to get what's coming to me.
- 8^h -.31 (Ver) I demand that people respect my rights.

FACTOR 11

- 66 -.77 (Dog) Most people just don't give a "damn" for others.
- 67 .71 (Ano) Most people will go out of their way to help someone else.
- 65 -.60 (Sus) My motto is "never trust strangers."
- 61 .59 (Mac) Most people are basically good and kind.
- 2 -.54 (Ano) Most people in government are not really interested in the problems of the average man
- 52 .46 (Mac) Most men are brave.
- 99 .39 (Ano) The average man is probably better off today than he ever was.
- 30 -.37 (Sus) I tend to be on my guard with people who are more friendly than I expected.
- 37 -.37 (Mac) The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
- 72 -.32 (Sus) I used to think that most people told the truth, but now I know otherwise.
- 25 .36 (Mac) Most people who get ahead in the world lead clean, moral lives.
- 32 -.30 (Mac) It is safest to assume that all people have a vicious streak and it will come out when given a chance.

FACTOR 12

- 35 .70 (Mac) All in all, it is better to be humble and honest than important and dishonest.
- 25 .46 (Mac) Most people who get ahead in the world lead clean, moral lives.
- 74 -.40 (Mac) Most men forget more easily the death of their father than the lose of their property.
- 51 -.38 (Mac) The best way to handle people is to tell them what they want to hear.
- 17 .36 (Mac) Barnum was very wrong when he said there's a sucker born every minute.
- 75ⁱ -.32 (Mac) It is possible to be good in all respects.
- 32ⁱ .31 (Mac) It is safest to assume that all people have a vicious streak and it will come out when given a chance.
- 71 .30 (Dog) If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

FACTOR 13

- 53 -.59 (Dog) Of all the different philosophies which exist in the world, there is probably only one which is correct.
- 34 -.53 (Res) If I let people see the way I feel, I'd be considered a hard person to get along with.
- 77 -.52 (Ano) It is hardly fair to bring a child into the world with the way things look for the future.
- 100 -.49 (Dog) A person who thinks primarily of his own happiness is beneath contempt.
- 36 -.48 (Res) Other people always seem to get the breaks.
- 4^j -.41 (Ver) I would rather concede a point than get into an argument about it.
- 74 -.39 (Mac) Most men forget more easily the death of their father than the loss of their property.
- 76 -.39 (Dog) The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- 101 -.36 (Sus) I commonly wonder what hidden reason another person may have for doing something nice for me.
- 91 -.35 (Dog) In times like these, a person must be pretty selfish if he considers primarily his own happiness.
- 24^j .33 (Ver) I can't help getting into arguments when people disagree with me.
- 21 -.31 (Ano) Nowadays, a person has to live pretty much for today and let tomorrow take care of itself.

FACTOR 14

- 102 .69 (Dog) The present is all too full of unhappiness, and it is only the future that counts.
- 5 .57 (Dog) The United States and Russia have just about nothing in common.
- 50 -.48 (Res) I don't know any people I downright hate.

68	.41	(Ver)	If somebody annoys me, I am apt to tell him what I think of him.
52	-.37	(Mac)	Most men are brave.
83	.36	(Ass)	Whoever insults me or my family is asking for a fight.
73	.33	(Dog)	My blood boils whenever a person stubbornly refuses to admit he's wrong.
103	.35	(Ver)	When I disapprove of my friend's behavior, I let them know it.
107	.35	(Ass)	I have known people who pushed me so far we came to blows.
59	.32	(Dog)	Most of the ideas which get printed nowadays aren't worth the paper they're printed on.

Notations on the orthogonal rotations for the female sample

- a) On Factor 1 other items indicate aggressiveness, while this item indicates a passivity that seems out of place.
- b) On Factor 1, this non-dogmatic answer conflicts with the more cynical, dogmatic appearance of other items.
- c) This non-dogmatic answer conflicts with other dogmatic answers on Factor 4.
- d) Factor 6 has a mixture of items, indicating suspiciousness and Mach tactics, but non-aggressive responses, and both dogmatic and non-dogmatic responses.
- e) This non-dogmatic response conflicts, it would seem, with the three dogmatic items loading on this factor.
- f) This non-dogmatic loading would seem to conflict with the five dogmatic loadings.
- g) This non-resentful item conflicts with other disaffected items loading on this factor (10).
- h) This item indicates a non-aggressive verbal loading on Factor 10, conflicting with several verbal aggression item loadings.
- i) These two items on Factor 12 have Mach loadings, conflicting with 5 other items with non-Mach loadings.
- j) These two items on Factor 13 indicate verbal aggressiveness which seem to conflict with the more open, trusting nature of the other items.

TABLE D

Oblique Rotation of Fourteen Factors for Females

FACTOR 1

66	.79	(Dog)	Most people just don't give a "damn" for others.
67	-.71	(Ano)	Most people will go out of their way to help someone else.
65	.59	(Sus)	My motto is "never trust strangers."
61	-.58	(Mac)	Most people are basically good and kind.
2	.53	(Ano)	Most people in government are not really interested in the problems of the average man.
99	-.42	(Ano)	The average man is probably better off today than he ever was.
52	-.41	(Mac)	Most men are brave.
30	.35	(Sus)	I tend to be on my guard with people who are somewhat more friendly than I expected.
37	.35	(Mac)	The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
25	-.32	(Mac)	Most people who get ahead in the world lead clean, moral lives.
72	.32	(Sus)	I used to think that most people told the truth- but now I know otherwise.
85 ^a	-.31	(Sus)	There are a number of people who seem to dislike me very much.

FACTOR 2

103	-.58	(Ver)	When I disapprove of my friends' behavior, I let them know it.
40	.48	(Ver)	Even when my anger is aroused, I don't use strong language.
24	-.56	(Ver)	I can't help getting into arguments when people disagree with me.
68	-.54	(Ver)	If somebody annoys me, I am apt to tell him what I think of him.
83	-.52	(Ass)	Whoever insults me or my family is asking for a fight.
64	-.50	(Ver)	When I get mad, I say nasty things.
107	-.49	(Ass)	I have known people who pushed me so far that we came to blows.
26	.46	(Ver)	I could not put someone in his place, even if he needed it.
4	.40	(Ver)	I would rather concede a point than get into an argument about it.
22	-.37	(Ass)	I get into fights as often as the next person.
91	.40	(Dog)	In times like these, a person must be pretty selfish if he considers primarily his own happiness.
79	-.37	(Ass)	If somebody hits me first, I let him have it.
36 ^b	.34	(Res)	Other people always seem to get the breaks.

- 7 -.33 (Dog) There are a number of people I have come to hate because of what they stand for.
 96 .31 (Sus) I have no enemies who really wish to harm me.
 108 -.30 (Ver) When people yell at me, I yell back.
 10 -.40 (Ass) When I lose my temper I am capable of hitting someone.

FACTOR 3

- 54 .64 (Ass) Once in a while I cannot control my urge to harm others.
 42 .56 (Dog) I'd like it if I could find someone who would tell me how to solve my personal problems.
 14 .42 (Res) Almost every week I see someone I dislike.
 46 .41 (Dog) Most people just don't know what's good for them.
 97 .55 (Res) I don't seem to get what's coming to me.
 79 .40 (Ass) If somebody hits me first, I let him have it.
 92 .38 (Dog) In times like these, a person must be pretty selfish if he considers primarily his own happiness.
 75 -.34 (Mac) It is possible to be good in all respects.
 87 -.33 (Mac) One should take action only when it is morally right.

FACTOR 4

- 7 .50 (Dog) There are a number of persons I have come to hate because of what they stand for.
 27 .46 (Ver) I often find myself disagreeing with people.
 56 .49 (Dog) Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.
 34 .46 (Res) If I let people see the way I feel, I'd be considered a hard person to get along with.
 71 .45 (Dog) If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."
 63 .40 (Dog) While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, Beethoven, or Shakespeare.
 43 .35 (Mac) It is wise to flatter important people.
 58 .34 (Dog) Even though freedom of speech is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
 69 .34 (Dog) It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
 74 .32 (Mac) Most men forget more easily the death of their father than the loss of their property.
 62 .30 (Dog) There is so much to do, and so little time to do it in.

FACTOR 5

- 105 -.65 (Mac) Honesty is the best policy in all cases.
 106 .64 (Mac) It is hard to get ahead without cutting corners here and there.
 82 .59 (Dog) It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes.

- 57 .56 (Mac) Anyone who completely trusts anyone else is asking trouble.
 90 -.56 (Mac) There is no excuse for lying to someone else.
 33 .47 (Dog) A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
 23 .38 (Dog) A group which tolerates too much difference of opinion among its members cannot exist for long.
 43 .36 (Mac) It is wise to flatter important people.
 60 .35 (Mac) Never tell anyone the real reason you did something unless it is useful to do so.
 87 -.35 (Mac) One should take action only when it is morally right.
 8 .31 (Ver) I demand that people respect my rights.

FACTOR 6

- 49 .59 (Ano) Next to health, wealth is the most important thing in life.
 89 .54 (Dog) In a heated discussion, I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.
 37 .45 (Mac) The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
 60 .45 (Mac) Never tell anyone the real reason you did something unless it is useful to do so.
 80 .45 (Dog) The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
 30 -.42 (Sus) I tend to be on my guard with people who are somewhat more friendly than I expected.
 107 -.35 (Ass) I have known people who pushed me so far that we came to blows.
 12^c -.35 (Dog) In times like these, it is often necessary to be more on guard against people or groups in one's own camp than by those in the opposing camp.
 40 -.33 (Ver) Even when my anger is aroused, I don't use as "strong language."
 62 .33 (Dog) There is so much to be done and so little time to do it in.
 1 .31 (Dog) In the history of mankind there have probably been just a handful of really great thinkers.
 58 .31 (Dog) Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

FACTOR 7

- 11 -.55 (Sus) I seldom feel that people are trying to anger or insult me.
 39 .53 (Sus) I sometimes have the feeling that others are laughing at me.
 17 -.50 (Mac) Barnum was very wrong when he said there's a sucker born every minute.

- 104 .39 (Res) When I look back on what's happened to me, I can't help feeling mildly resentful.
- 86 .38 (Dog) Fundamentally, the world we live in is a pretty lonesome place.
- 28 .37 (Mac) Generally speaking, men won't work hard unless they're forced to.
- 33 .36 (Dog) A person who gets enthusiastic about too many causes is likely to be a pretty wishy-washy sort of person.
- 93 .36 (Dog) It is only natural for a person to be rather fearful of the future.
- 96 -.36 (Sus) I have no enemies who really wish to harm me.
- 55 .32 (Res) At times I feel I get a raw deal out of life.
- 58^d -.32 (Dog) Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

FACTOR 8

- 95 .56 (Dog) It is often desirable to remove judgment about what's going on until one has had the chance to hear the opinion of those one respects.
- 69 .47 (Dog) It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- 21 -.45 (Ano) Nowadays, a person has to live pretty much for today and let tomorrow take care of itself.
- 63 .43 (Dog) While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein, Beethoven, or Shakespeare.
- 81 .41 (Dog) The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
- 99 .41 (Ano) The average man is probably better off today than he ever was.
- 70 .34 (Dog) Man on his own is a helpless and miserable creature.

FACTOR 9

- 16 .65 (Dog) In the long run, the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- 47^e .54 (Ver) I generally cover up my poor opinion of others.
- 78 .54 (Dog) There are two kinds of people in the world: those who are for truth and those who are against truth.
- 23 .53 (Dog) A group which tolerates too much difference of opinion among its members cannot exist for long.
- 28 .42 (Mac) Generally speaking, men won't work hard unless they're forced to.
- 53 .37 (Dog) Of all the different philosophies which exist in the world, there is probably only one which is correct.
- 98 .34 (Dog) In this complicated world of ours, the only way we can know what is going on is to rely on leaders or experts who can be trusted.

- 30 .33 (Sus) I tend to be on my guard with people who are somewhat more friendly than I expected.
- 80 .32 (Dog) The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
- 22 .30 (Ass) I get into fights as often as the next person.

FACTOR 10

- 109 .63 (Ver) I often make threats I don't really mean to carry out.
- 108 .51 (Ver) When people yell at me, I yell back.
- 18 .47 (Ver) When arguing I tend to raise my voice.
- 8^f -.41 (Ver) I demand that people respect my rights.
- 3 -.40 (Mac) When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving the reasons which might carry more weight.
- 19 .40 (Ano) You sometimes can't help wondering if anything is worthwhile anymore.
- 94 -.38 (Ano) If you try hard enough, you can usually get what you want.
- 31 .34 (Res) Although I don't show it, I am sometimes eaten up with jealousy.
- 11 -.31 (Sus) I seldom feel that people are trying to anger or insult me.
- 88 .31 (Sus) There are a number of people who seem to be jealous of me.
- 97 -.30 (Res) I don't seem to get what's coming to me.

FACTOR 11

- 6 -.66 (Ano) Most people can still be depended upon to come through in a pinch.
- 20 .56 (Ass) People who continually pester you are asking for a punch in the nose.
- 65 .42 (Sus) My motto is "never trust strangers."
- 111 .37 (Dog) When it comes to differences of opinion in religion we must be careful not to compromise with those who believe differently from the way we do.
- 55 .34 (Res) At times I feel I get a raw deal out of life.
- 84 .33 (Dog) Once I get wound up in a heated discussion, I just can't stop.
- 53 .32 (Dog) Of all the different philosophies which exist in the world, there is probably only one which is correct.
- 21 .32 (Ano) Nowadays a person has to live pretty much for today and let tomorrow take care of itself.
- 8 -.31 (Ver) I demand that people respect my rights.
- 32 .31 (Mac) It is safest to assume that all people have a vicious streak and it will come out when given a chance.
- 48 .31 (Ass) If I have to resort to physical violence to defend my rights, I will.

FACTOR 12

- 35 .65 (Mac) All in all, it is better to be humble and honest than important and dishonest.
- 25 .47 (Mac) Most people who get ahead in the world lead clean, moral lives.
- 51 -.45 (Mac) The best way to handle people is to tell them what they want to hear.
- 71 .35 (Dog) If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."
- 3 .33 (Mac) When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving the reasons which might carry more weight.
- 74 -.33 (Mac) Most men forget more easily the death of their father than the loss of their property.
- 75 -.32 (Mac) It is possible to be good in all respects.

FACTOR 13

- 13 .61 (Ass) I seldom strike back, even if someone hits me first.
- 74 -.40 (Mac) Most men forget more easily the death of their father than the loss of their property.
- 77 -.39 (Ano) It is hardly fair to bring a child into the world with the way things look for the future.
- 44^g .38 (Dog) In a heated discussion, I often find it necessary to repeat myself several times to make sure that I am being heard.
- 53 -.36 (Dog) Of all the different philosophies which exist in the world, there is probably only one which is correct.
- 9 -.34 (Dog) To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- 76 -.34 (Dog) The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- 80^g .32 (Dog) The highest form of government is a democracy, and the highest form of democracy is a government run by those who are most intelligent.
- 50 .32 (Res) I don't know any people that I downright hate.

FACTOR 14

- 5 .55 (Dog) The United States and Russia have just about nothing in common.
- 58 .37 (Dog) Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- 50 -.41 (Res) I don't know any people that I downright hate.
- 52 -.41 (Mac) Most men are brave.
- 59 .37 (Dog) Most of the ideas which get printed nowadays aren't worth the paper they're printed on.
- 44 .32 (Dog) In a discussion, I often find it necessary to repeat myself several times to make sure that I am being heard.

25 -.31 (Mac) Most people who get ahead in the world lead clean,
 moral lives.

EXPLANATION OF NOTATIONS FOR THE OBLIQUE ROTATIONS

- a) This item on factor 1 loads for non-suspiciousness, and conflicts with the tone of the factor and the loadings of other items.
- b) This item in Factor 2 loads for non-resentment, and varies with other items.
- c) This item on Factor 6 presents a non-dogmatic attitude at variance with other items.
- d) The non-dogmatic loading of this item on Factor 7 conflicts with the dogmatic loadings of several other items.
- e) The loading for this item on Factor 9 loads for verbal non-aggressiveness, at variance with the tone of the factor.
- f) The loading for this item reflects a verbal non-aggressiveness on Factor 10 that is at variance with the tone of the factor.
- g) These items load in a non-dogmatic way on Factor 13 that conflicts with the loadings of the loadings of other items.

APPENDIX VI

TABLE E

Summary of ANOVA's Comparing the Responses of the Members of the Three Fraternities on the Mach Scale, Anomia Scale, and Assault Subscale and Scheffe Tests Indicating Source of Differences

Mach Scale¹

Group	<u>N</u>	<u>Mean</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
1	17	11.2353	6.1360	2, 65	.005
2	17	10.2941			
3	34	8.1471			

Scheffe test results

<u>Group</u>	compared to <u>group</u>	<u>Result</u>	<u>p</u>
1	2	.7453	n.s.
1	3	10.6963	.01
2	3	5.1700	.1

Anomia Scale¹

Group	<u>N</u>	<u>Mean</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
1	17	4.6471	7.1363	2, 65	.002
2	17	3.4706			
3	34	2.6471			

Scheffe test results

<u>Group</u>	compared to <u>group</u>	<u>Result</u>	<u>p</u>
1	2	3.6791	.25
1	3	14.1793	.01
2	3	2.4307	n.s.

Assault Subscale¹

Group	<u>N</u>	<u>Mean</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
1	17	3.8235	2.5604	2, 65	.09
2	17	5.3529			
3	34	4.3059			

Scheffe test results

<u>Group</u>	compared to <u>group</u>	<u>Result</u>	<u>p</u>
1	2	4.5523	.15
1	3	.5906	n.s.
2	3	2.7882	n.s.

¹Indicates Bartlett's Test for Homogeneity of Variances has been performed, and the results were not significant at p=.05.

TABLE F

Scores, Variances, and F-ratio Comparing Variance for the
Group Functioning Scores Assigned by the Members
of Fraternity 1 and 2 to Their Organization

Fraternity 1	Fraternity 2
3	3
6	5
6	4
4	5
6	5
4	6
6	4
6	6
6	4
6	7
1	4
1	5
4	5
3	5
5	4
6	6
6	6
Mean:	4.64
Variance:	4.94
3.19	1.07

$$F = \frac{\sigma^2_1}{\sigma^2_2} = 2.98, p < .05, \text{d.f.} = (16, 16)$$

TABLE G

Summary of ANOVA's Performed on the Scores of Leaders of the
Three Fraternities on the Mach and Anomia Scales
and the Post-hoc Scheffe Tests

Mach Scale**

<u>Fraternity</u>	<u>N</u>	<u>Mean</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
1	10	10.80	4.1349	2, 22	< .05
2	7	11.71			
3	8	7.62			

<u>Scheffe Test Results</u>				
<u>group</u>	<u>by group</u>	<u>Result</u>		<u>p</u>
1	2	.39		n.s.
1	3	5.1839		< .1
2	3	7.2608		< .05

Amonia Scale**

<u>Fraternity</u>	<u>N</u>	<u>Mean</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
1	10	4.30	7.2051	2, 22	< .01
2	7	4.00			
3	8	1.50			

<u>Scheffe Test Results</u>				
<u>group</u>	<u>by group</u>	<u>Result</u>		<u>p</u>
1	2	.1357		n.s.
1	3	12.7624		< .01
2	3	8.5429		< .05

** indicates an F_{\max} test comparing variances has been performed
(Winer, 1962), and the results are not significant at $p = .05$.

TABLE H

Comparisons of Officers and Non-officers in Fraternity 1
on the Hostility Scale

<u>Including Freshmen</u>			<u>Excluding Freshmen</u>		
	<u>Below median</u>	<u>Above median</u> <u>Totals</u>		<u>Below median</u>	<u>Above median</u> <u>Totals</u>
Officer	3	7 10	Officer	3	7 10
Non- officer	$\frac{5}{8}$	$\frac{2}{9}$ $\frac{7}{17}$	Non- officer	$\frac{5}{8}$	$\frac{1}{8}$ $\frac{6}{16}$
(FEP=.059) p=n.s., two-tailed test			(FEP=.056) p=n.s., two-tailed test		

TABLE I

Comparison of High- and Low-officers in Fraternity 1
on the Assault Subscale

	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>
High Officers	0	4	4
Low Officers	$\frac{5}{5}$	$\frac{1}{5}$	6

(FEP=.023)
p < .05, 2 tailed test (Roscoe, 1969)

TABLE J

Summary of FEP Tests for Fraternity 2 on the Mach Scale
and the Anomia Scale, and the Dogmatism Scale

Mach Scale (excluding freshmen)

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>	
Officer	2	5	7	
Non-officer	$\frac{5}{7}$	$\frac{1}{6}$	$\frac{6}{13}$	(FEP=.073) p=n.s.

Anomia Scale (excluding freshmen)

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>	
Officer	2	5	7	
Non-officer	$\frac{5}{7}$	$\frac{1}{6}$	$\frac{6}{13}$	(FEP=.073) p=n.s.

Dogmatism Scale (including freshmen)

	<u>Below Median</u>	<u>Above Median</u>	<u>Totals</u>	
Officer	5	2	7	
Non-officer	$\frac{2}{7}$	$\frac{6}{8}$	$\frac{8}{15}$	(FEP=.091) p=n.s.

TABLE Ka

Comparison of Officers and Non-officers from the General
Sample on the Mach Scale

<u>Excluding Freshmen</u>			<u>Including Freshmen</u>		
	<u>Below median</u>	<u>Above median</u> <u>Totals</u>		<u>Below median</u>	<u>Above median</u> <u>Totals</u>
Officer	7	3 10	Officer	7	3 10
Non- officer	$\frac{4}{11}$	$\frac{8}{11}$ $\frac{12}{22}$	Non- officer	$\frac{5}{12}$	$\frac{11}{14}$ $\frac{16}{26}$
(FEP=.084) p=n.s.			(FEP=.054) p=n.s.		

TABLE Kb

Comparison of High Officers and Low-officers from
the Sorority Sample on the Mach Scale

	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>	
High Officer	4	1	5	(FEP=.072) p=n.s.
Low Officer	$\frac{0}{4}$	$\frac{3}{4}$	$\frac{3}{8}$	

TABLE L

Summary of Comparisons of Officers and Non-officers on the Verbal Subscale,
Across Group Medians

Including Freshmen

	<u>3 Frats. + general</u>			<u>Frats 1, 2, + general</u>			<u>3 Frats</u>			<u>Frats 1 and 2</u>		
	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>	<u>Below median</u>	<u>Above median</u>	<u>Totals</u>
Officers	15	21	36	10	18	28	11	15	26	6	12	18
Non-officers	$\frac{30}{45}$	$\frac{28}{49}$	$\frac{58}{94}$	$\frac{17}{27}$	$\frac{15}{33}$	$\frac{32}{60}$	$\frac{23}{34}$	$\frac{19}{34}$	$\frac{42}{68}$	$\frac{10}{16}$	$\frac{6}{18}$	$\frac{16}{34}$
	X ² =.5424, n.s.			X ² =1.1931, n.s.			X ² =.7373, n.s.			X ² =1.0247, n.s.		
	p < .30											

Excluding Freshmen

	<u>Below</u> <u>median</u>	<u>Above</u> <u>median</u>	<u>Totals</u>	<u>Below</u> <u>median</u>	<u>Above</u> <u>median</u>	<u>Totals</u>	<u>Below</u> <u>median</u>	<u>Above</u> <u>median</u>	<u>Totals</u>	<u>Below</u> <u>median</u>	<u>Above</u> <u>median</u>	<u>Totals</u>
Officers	15	21	36	10	18	28	11	15	26	6	12	18
Non-officers	$\frac{26}{41}$	$\frac{20}{41}$	$\frac{46}{82}$	$\frac{15}{25}$	$\frac{9}{27}$	$\frac{24}{52}$	$\frac{20}{31}$	$\frac{14}{29}$	$\frac{34}{60}$	$\frac{9}{15}$	$\frac{3}{15}$	$\frac{12}{30}$
	$\chi^2=1.2379$			$\chi^2=2.8441$, $p < .1$			$\chi^2=1.0159$			$\chi^2=3.4562$ $p .10$		
	$p < .30$									$(p \text{ req. } .05=3.84)$		

TABLE M

Summary of Comparisons of Officers and Non-Officers
on the Mach Scale Using One Group Median
(mdn.=9.5)

<u>All Fraternity Subjects</u>			<u>All Fraternity Ss, excluding Freshmen</u>		
	<u>Below median</u>	<u>Above median</u>		<u>Below median</u>	<u>Above median</u>
Officers	18	17	Officers	18	17
Non-Officers	29	30	Non-Officers	23	23

<u>All Fraternity Subjects, Excluding Fraternity 2</u>			<u>All Fraternity Members, Excluding Fraternity 2 and Freshmen</u>		
	<u>Below median</u>	<u>Above median</u>		<u>Below median</u>	<u>Above median</u>
Officers	17	11		17	11
Non-officers	24	25		19	21

TABLE N
Fraternity Males Compared by Birth Order on the
Assault Subscale

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>p</u>
Only	7	4.4286	2.1997	3, 90	<.095
Oldest	36	3.8333			
Middle	28	5.2143			
Youngest	23	4.6522			

Scheffe Test

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Only	Oldest	<1.0	n.s.
Only	Middle	<1.0	"
Only	Youngest	"	"
Oldest	Middle	4.7523	<.25
Oldest	Youngest	<1.0	n.s.
Middle	Youngest	"	"

..

TABLE Oa

Non-Fraternity Men Compared by Birth Order on the Dogmatism Scale

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>p</u>
Only	3	17.3333	2.5147	3, 58	<.07
Oldest	10	13.1000			
Middle	22	16.0455			
Youngest	27	11.6667			

Scheffe Test

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Only	Oldest	1.312	n.s.
Only	Middle	< 1.0	"
Only	Youngest	2.3713	n.s.
Oldest	Middle	1.6309	"
Oldest	Youngest	< 1.0	"
Middle	Youngest	6.3577	<.20

TABLE Ob

Non-fraternity Men Compared by Birth Order, Excluding
Only Children, on the Dogmatism Scale

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>p</u>
Oldest	10	13.1000	3.161	2, 56	<.05
Middle	22	16.0455			
Youngest	27	11.6667			

Scheffe Test

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Oldest	Middle	1.6509	n.s.
Oldest	Youngest	< 1.0	
Middle	Youngest	6.2583	<.06

TABLE P

Non-sorority Women Compared by Birth Order on the Resentment
Subscale and the Total Hostility Scale

Resentment Subscale

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>P</u>
Only	3	4.0000	2.3083	3, 43	<.09
Oldest	19	2.6842			
Middle	11	1.8182			
Youngest	14	1.7857			

Total Hostility Scale

<u>Birth Order</u>	<u>N</u>	<u>M</u>	<u>F</u>	<u>d.f.</u>	<u>P</u>
Only	3	9.0000	2.2334	3, 43	<.097
Oldest	19	5.9474			
Middle	11	4.4545			
Youngest	14	4.3571			

TABLE Qa

Summary of ANOVA and Scheffe Test for a Comparison by Year in College
of Fraternity Members for Scores on the Assault Subscale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	13	5.9231	2.3450	4, 89	<.06
So.	25	4.1200			
Jr.	33	4.0606			
Sr.	20	4.5000			
Gr.	3	6.0000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	6.0598	<.25
Fr.	Jr.	7.0506	<.25
Fr.	Sr.	3.4767	n.s.
Fr.	Gr.	<1.0	n.s.
So.	Jr.	<1.0	n.s.
So.	Sr.	<1.0	n.s.
So.	Gr.	2.0629	n.s.
Jr.	Sr.	<1.0	n.s.
Jr.	Gr.	2.2538	n.s.
Sr.	Gr.	1.2790	n.s.

TABLE Qb

Summary of ANOVA and Scheffe Test for a Comparison by Year in College
of Fraternity Members for Scores on the Assault Subscale,
for Freshmen Through Senior Year Only

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	13	5.9231	2.567	3, 87	<.06
So.	25	4.1200			
Jr.	33	4.0606			
Sr.	20	4.5000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	5.9522	<.25
Fr.	Jr.	6.9253	<.10
Fr.	Sr.	3.4152	n.s.
So.	Jr.	<1.0	"
So.	Sr.	"	"
Jr.	Sr.	"	"

TABLE R

Summary of ANOVA and Scheffe Test for Comparison of Non-fraternity
Members by Year in College for Scores on the Resentment Subscale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	22	3.3182	2.6196	3, 58	< .06
So.	22	1.8636			
Jr.	10	2.2000			
Sr.	8	2.5000			

Scheffe Test Results

<u>Group</u> compared to <u>Group</u>		<u>Result</u>	<u>p</u>
Fr.	So.	7.4605	< .10
Fr.	Jr.	2.7551	n. s.
Fr.	Sr.	1.2587	"
So.	Jr.	< 1.0	"
So.	Sr.	< 1.0	"
Jr.	Sr.	< 1.0	"

TABLE S

Summary of ANOVA and Scheffe Test for the Female Sample Considered
by Year in College for Scores on the Hostility
Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	19	5.7895	2.5383	4, 72	< .05
So.	32	4.9688			
Jr.	19	3.6842			
Sr.	6	6.3333			
Gr.	1	11.0000			

Scheffe Test Results

<u>Group compared to Group</u>		<u>Results</u>	<u>p</u>
Fr.	So.	.8927	n.s.
Fr.	Jr.	4.6817	"
Fr.	Sr.	.1499	"
Fr.	Gr.	2.8676	"
So.	Jr.	2.1873	"
So.	Sr.	1.0459	"
So.	Gr.	3.9218	"
Jr.	Sr.	3.5581	"
Jr.	Gr.	5.6532	<.25
Sr.	Gr.	2.0754	n.s.

TABLE T

Summary of ANOVA's and Scheffe Tests for Total Female Sample Compared by Year in College for Scores on the Dogmatism Scale and Verbal Subscale

Dogmatism Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p.</u>
Fr.	19	16.1579	2.0655	4, 72	<.095
So.	32	13.5625			
Jr.	19	12.8421			
Sr.	6	14.0000			
Gr.	1	19.0000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	4.6150	n.s.
Fr.	Jr.	6.0023	<.25
Fr.	Sr.	1.1220	n.s.
Fr.	Gr.	< 1.0	"
So.	Jr.	< 1.0	"
So.	Sr.	< 1.0	"
So.	Gr.	1.6475	"
Jr.	Sr.	< 1.0	"
Jr.	Gr.	2.0701	"
Sr.	Gr.	1.7091	"

Verbal Subscale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	19	6.7368	2.0967	4, 72	<.09
So.	32	5.4063			
Jr.	19	6.0000			
Sr.	6	8.5000			
Gr.	1	5.0000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Results</u>	<u>p</u>
Fr.	So.	2.9977	n.s.
Fr.	Jr.	< 1.0	"
Fr.	Sr.	2.0136	"
Fr.	Gr.	< 1.0	"
So.	Jr.	< 1.0	"
So.	Sr.	6.8692	<.25
So.	Gr.	< 1.0	n.s.
Jr.	Sr.	4.0481	"
Jr.	Gr.	< 1.0	"
Sr.	Gr.	1.4914	"

TABLE U

Summary of ANOVA's and Scheffe Tests for Female Sample Compared by Year in College, without Graduate Student, on the Dogmatism Scale and the Verbal Subscale

Dogmatism Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	19	16.1579	2.294	3, 72	< .09
So.	32	13.5625			
Jr.	19	12.8421			
Sr.	6	14.0000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	4.6150	< .25
Fr.	Jr.	6.0023	< .25
Fr.	Sr.	1.2201	n.s.
So.	Jr.	< 1.0	"
So.	Sr.	< 1.0	"
Jr.	Sr.	< 1.0	"

Verbal Subscale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	19	6.7368	2.736	3, 72	< .05
So.	32	5.4063			
Jr.	19	6.0000			
Sr.	6	8.5000			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	2.9977	n.s.
Fr.	Jr.	< 1.0	"
Fr.	Sr.	2.0136	"
So.	Jr.	< 1.0	"
So.	Sr.	6.8692	< .10
Jr.	Sr.	4.0481	n.s.

TABLE V

Summary of ANOVA's and Scheffe Tests for Non-sorority Women Compared by Year in College on the Dogmatism Scale and Hostility Scale

Dogmatism

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	14	16.1429	2.4993	4, 42	<.06
So.	19	13.7895			
Jr.	11	11.5455			
Sr.	2	19.0000			
Gr.	1	19.0000			

Scheffe Test Results

<u>Group</u>	<u>Compared to Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	2.2069	n.s.
Fr.	Jr.	6.4364	<.25
Fr.	Sr.	< 1.0	n.s.
Fr.	Gr.	< 1.0	"
So.	Jr.	1.7342	"
So.	Sr.	2.4324	"
So.	Gr.	1.2770	"
Jr.	Sr.	4.6489	"
Jr.	Gr.	2.5218	"
Sr.	Gr.	--	

Hostility Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	14	6.2143	2.1256	4, 42	<.095
So.	19	5.5263			
Jr.	11	3.3636			
Sr.	2	5.0000			
Gr.	1	11.0000			

Scheffe Test Results

<u>Group</u>	<u>compared to Group</u>	<u>Result</u>	<u>p</u>
Fr.	So.	< 1.0	n.s.
Fr.	Jr.	4.9164	"
Fr.	Sr.	< 1.0	"
Fr.	Gr.	2.0994	"
So.	Jr.	3.2002	"
So.	Sr.	< 1.0	"
So.	Gr.	2.7954	"
Jr.	Sr.	< 1.0	"
Jr.	Gr.	5.2500	"
Sr.	Gr.	2.3571	"

TABLE W

Summary of ANOVA's and Scheffe Tests for Non-sorority Women Comparing Freshmen, Sophomores, and Juniors on the Dogmatism Scale and the Hostility Scale

Dogmatism Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	14	16.1429	3.239	2, 41	<.05
So.	19	13.7895			
Jr.	11	11.5455			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Results</u>	<u>p</u>
Fr.	So.	2.2010	n.s.
Fr.	Jr.	6.4608	<.05
So.	Jr.	1.7234	n.s.

Hostility Scale

<u>Year</u>	<u>N</u>	<u>M</u>	<u>F-ratio</u>	<u>d.f.</u>	<u>p</u>
Fr.	14	6.2143	2.678	2, 41	<.08
So.	19	5.5263			
Jr.	11	3.3636			

Scheffe Test Results

<u>Group</u> compared to	<u>Group</u>	<u>Results</u>	<u>p</u>
Fr.	So.	< 1.0	n.s.
Fr.	Jr.	5.0104	<.10
So.	Jr.	3.2614	<.25

VITA

Steven R. Heyman was born in New York City on December 28, 1946. In September 1963 he entered the City College of the City University of New York (C.C.N.Y.), and was graduated with a Bachelor of Arts degree in January, 1968. His undergraduate major was psychology, and his minors were sociology and speech. In January, 1968, he entered California State University, Sacramento, and in June, 1970, he was awarded the Master of Arts degree in psychology. In September, 1970, he entered Louisiana State University in Baton Rouge to pursue the Doctor of Philosophy degree in clinical and community psychology. The degree is to be awarded in May, 1976.

After completing his internship in clinical psychology at the University of Florida in 1975, a first teaching position was accepted with the Department of Psychology at Southwestern Oklahoma State University in Weatherford, Oklahoma.

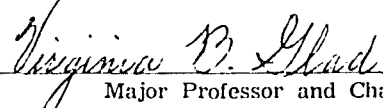
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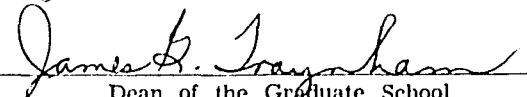
Candidate: Steven R. Heyman

Major Field: Psychology



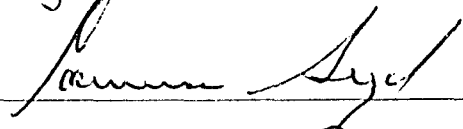
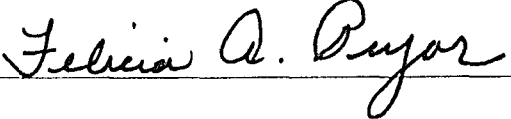
Title of Thesis: A Study of Dogmatism, Machiavellianism, Anomia, Hostility,
and Aggression

Approved:


Major Professor and Chairman


Dean of the Graduate School

EXAMINING COMMITTEE:

Date of Examination:

February 20, 1976